SEPTEMBER, 1961

AMATEUR RADIO

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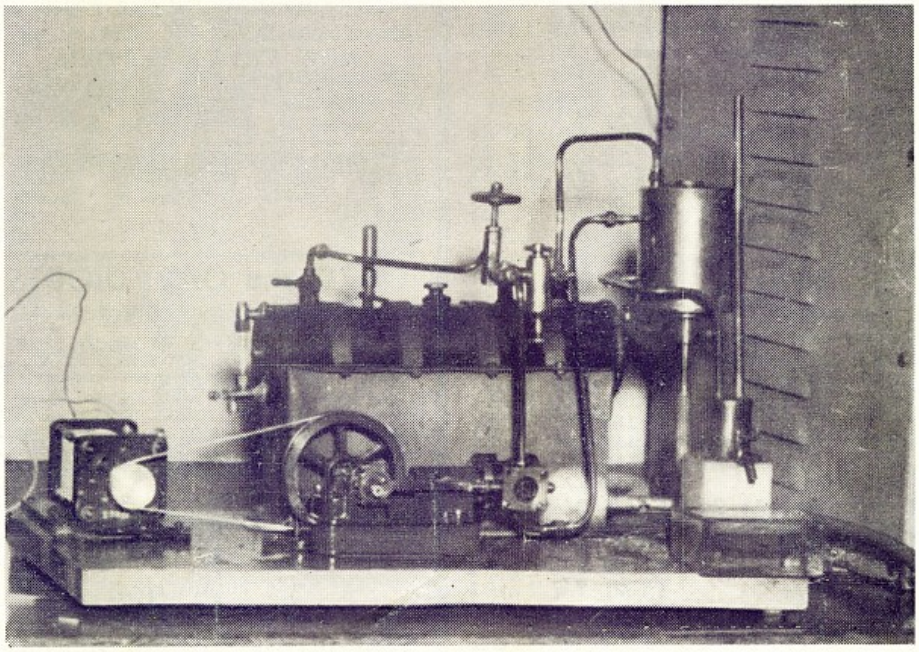
A STEAM DRIVEN PARAMETRIC AMPLIFIER!



A voltage is applied across a condensor by a series diode, which is then connected through another series diode across another condensor. These two condensors are connected to a common frame, which is shown in the above illustration.

A scale model steam engine then drives these condensors; the output being fed to an electrometer type movement.

2/-

Registered at G.P.O., Melbourne, for transmission by post as a periodical

AMATEUR RADIO

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Receivers only, incomplete, but ideal for wrecking. To clear **19/6**

NEW TAPE DECKS

"Collaro" Studio Type, Model BM-2. Three Speed. **Price £31/8/4.**

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VARIABLE CONDENSERS

(Ceramic)

Small screwdriver adjust, 80 pF., **7/6 each,** or **three for £1.**

Split stator two gang, 60 pF. per sec., medium size, **15/- ea.**

Trimmers, Ducon, 4-30 pF., **3/6 ea.**

Philips air trimmers, 3-30 pF., **3/- ea.**

Compression trimmers, c.t. 3-55, **1/- ea.**

TECH MULTIMETER

300 μA. movement.
AC and DC voltages: 0-10, 0-50, 0-250, 0-500, 0-1000v.
Current ranges (mA.) 0-1, 0-100, 0-500 mA.
Ohms range: 0-100,000 ohms.
Size: 3¾ x 2½ x 1¼ inches.
Complete with leads.

Price only £2/17/6, post paid.

CO-AXIAL CABLE

100 ohm co-ax. cable, ¾" diam., **2/- yd.**

98 ohm co-ax. cable, ⅜" diam., in 100 yard rolls **£5,** or **1/3 yard.**

72 ohm PT29M, single strand, ⅜" diam. **2/- yard.**

50 ohm co-ax. cable, ¾" diam., **2/- yard** or £8/15/0 per 100 yard roll.

CONDENSERS

Superseal Paper Type:

0.005 μF. 600v.	0.0033 μF. 600v.
0.022 μF. 600v.	0.04 μF. 200v.
0.047 μF. 1000v.	0.015 μF. 400v.
0.0047 μF. 400v.	0.001 μF. 1000v.

Metalpak Electrolytic Type:

25 μF. 25v.d.c.w.	2 μF. 150v.d.c.w.
2 μF. 200v.d.c.w.	2 μF. 250v.d.c.w.

and others.

All 6d. each

FERROCART VACUUM TUBE VOLTMETER

V.T.V.M. .. .. **£19/17/6** inc. tax

H.V. Probe .. .. **£3/5/0** inc tax

R.F. Probe .. .. **£2/10/0** inc. tax

VALVES

1A3	2/-		7A8	2/-	11 a £1
1A7GT	7/6	3 a £1	7B8	7/6	
1C7	3/-	7 a £1	7C5	5/-	5 a £1
1D5GT	5/-	5 a £1	7C7	2/-	12 a £1
1D8	7/6	3 a £1	7F7	5/-	5 a £1
1H5	5/-	5 a £1	7W7	2/6	10 a £1
1H6	5/-	5 a £1	7E6	3/6	7 a £1
1K4	5/-	5 a £1	12A6	4/-	6 a £1
1K5	5/-	5 a £1	12SA7GT	10/-	
1K7	5/-	5 a £1	12AH7	5/-	5 a £1
1N5	5/-	5 a £1	12AT7	7/6	3 a £1
1P5	2/-	10 a £1	12C8	5/-	
1Q5	5/-	5 a £1	12J5	5/-	5 a £1
1S5	10/-		12K8	5/-	5 a £1
EA50	2/6	9 a £1	12SF7	5/-	5 a £1
3A4	10/-		12SG7	5/-	5 a £1
3AP1	35/-		12SK7	5/-	5 a £1
3BP1	45/-		12SL7	7/6	3 a £1
3Q5	5/-	5 a £1	12SR7	5/-	5 a £1
5R4GY	£1		14A7	3/6	7 a £1
5Y3GT	13/9		25L6	5/-	
5Z3	17/6		117Z6	5/-	5 a £1
6A3	7/6	3 a £1	1625	5/-	5 a £1
6A7	10/-		30	1/3	
6AJ5	7/6	3 a £1	35T	30/-	
6AG7	12/6		717A	7/6	
6AM5	(EL91)	10/-	807	7/6	3 a £1
6AM6	(EF91)	10/-	808	£1	
6B4	10/-		815	15/-	
6B7	10/-		830B	15/-	
6BE6	12/6		832A	19/6	
6C4	5/-	5 a £1	954	5/-	5 a £1
6C5	5/-	5 a £1	955	5/-	5 a £1
6C6	5/-	5 a £1	956	5/-	5 a £1
6D6	5/-	5 a £1	958A	2/6	10 a £1
6E5	5/-	5 a £1	9003	7/6	3 a £1
6G6	7/6	3 a £1	AV11	2/11	
6G8G	17/6		EA50	2/-	10 a £1
6J6	10/-		EF36	5/-	5 a £1
6K7	5/-	5 a £1	EF39	5/-	5 a £1
6K8G	20/-		QE04/10	15/-	
6L7	5/-	5 a £1	QV04/7	15/-	
6R7	7/6	3 a £1	RL18	7/6	3 a £1
6T7	7/6	3 a £1	UL41	7/6	3 a £1
6Z7	7/6	3 a £1	VR53	5/-	5 a £1
6SC7	7/6		VR100	5/-	5 a £1
6SF5	7/6	3 a £1	VR101	5/-	5 a £1
6SF7	7/6	3 a £1	VR102	5/-	5 a £1
6SG7	12/6		VR103	5/-	5 a £1
6SH7	4/-	5 a £1	VR136	2/-	12 a £1
6SK7GT	12/6		VR150	12/6	
6SQ7	12/6		VT52	5/-	
6SS7	7/6	3 a £1	VT127	4/11	5 a £1
6X5	10/-		VT501	7/6	3 a £1

NEW VALVES—Just Arrived

1R5	16/4		6BX6	15/1	
3V4	15/5		6BZ6	15/2	
6AE8	17/3		6CW7	16/9	
6AL5	13/7		6K7	met.	5/- 5 £1
6AN7	17/3		6N8	15/5	
6AU6	15/1		6SL7	12/6	
6AV6	13/-		6SN7	12/6	
6BE6	15/2		6V4	11/4	
6BL8	16/6		6Y6	5/-	5 a £1
6BM8	17/8		805	£3	

OVAL SPEAKERS

Oval Type, Well Known Make.

69H 6" x 9" 3.5 ohm voice coil, **37/6**

75H 5" x 7" 3.5 ohm voice coil **32/6**

5000 and 7000 ohm Trannies to suit, **15/-**

BC433-G COMPASS RECEIVERS

Freq. range 200 Kc. to 1750 Kc., 14 valves—6.3 volt series, 6K7, 6J5, etc. I.F. freq. 142.5 Kc. Clean condition, Priced only **£10/0/0**

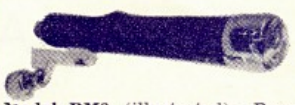
Flexible cable & control box **30/-** extra.

JAPANESE METERS

0-1 mA., 1¾" square, KM-17 .... **£2**

0-1 mA., 3¼" round, MR-65 .. **£1/15/0**

PIEZO CRYSTAL MICROPHONE



Price only 57/6

Stand to suit 15/- extra.

Model BM3 (illustrated). Response 100 to 8000 c.p.s., fitted with 6 ft. cable and phone plug with on-off switch. Can be used on stand for hand use.

NEW VALVE TESTERS

Tech Model TC-2. 230 v.a.c. Checks all latest valves. Complete with instruction book. Wt. 14 lbs. **Price £16/17/6.**

COMMAND TRANSMITTERS

3-4 Mc. range **£7**

4-5.3 Mc. „ **£5**

7-9 Mc. „ **£6**

OA79 and OA81 DIODES

Well known make. Brand New.

To Clear—2/6 each

METERS

0-4 amp. r.f., 3" round with shorting switch **20/-**

FILAMENT TRANSFORMERS

2.5 volts c.t., 10 amp.; 12 volts 3 amp. New. "S" Power Supply type. **£3/0/0.**

POWER TRANSFORMERS

410 volts aside, 80 mA., 12.8v. at 1.25a., 5v. at 2a. **40/-.**

STEP-DOWN TRANSFORMERS

230 volts to 110 volts, 1kv., **£8/10/0.**

230 volts to 110 volts, 500w., **£6/10/0.**

In case.

5.5 Mc. VIDEO COILS

Contains slug-tuned coil former. **6d. each.**

All parcels sent ordinary post unless otherwise stated.

SEPTEMBER — — — 1961
Vol. 29 No. 9

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Wireless Institute of Australia (Victorian Division) Rooms' Phone Number is JA 3535.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, simultaneously on 3575 Kc., 7146 Kc., and 145.0 Mc. Intrastate call-backs taken on 7050 Kc..

VK3WI: Sundays, 1030 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 146.25 Mc. Intrastate hook-ups taken on 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 7146 Kc. and 14.342 Mc. Intrastate hook-ups taken on 7105 Kc.

VK5WI: Sundays, 0900 hours CAT, on 7146 Kc. Intrastate hook-ups taken on 7125 Kc. Frequency checks given when VK-5WI is on the air and also by VK5MD by arrangement.

VK6WI: Sundays at 0930 hours WAST, on 7146 Kc. Intrastate hook-ups taken on 7085 Kc.

VK7WI: Sundays at 1000 hours EST, on 7146 Kc. and 3672 Kc. Intrastate hook-ups taken on 7115 Kc.

AMATEUR RADIO

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

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Postal Address: P.O. Box 36, East Melbourne, C.2, Vic.

EDITORIAL

★

AMATEURS AND AUSTRALIA

IT'S a long time since the Amateur physically manufactured the component parts for his equipment from the raw materials for the simple reason that the making of such parts requires processes and machines unaccessible to individual people.

As the science has progressed so the Amateur has of necessity moved further away from manufacture and has contented himself experimenting with the practical application of circuitry using manufactured components.

The science itself has taken giant strides ahead, making it impossible for individuals to participate even in many of the practical applications. Who, for instance, could afford to erect radio telescopes; who could afford to indulge in multiplexing high speed telegraphy equipment; who, out of individual Amateurs, could afford the modern test equipment to carry out the work done in laboratories. None! Unless he (or she) is employed in industry or Government instrumentalities. And this is where the Amateur of today is of such importance.

In industry, laboratories, broadcasting stations, television stations . . . everywhere in fact that one finds electronics one finds Amateurs and the "employer" derives the benefit of his natural attribute and keenness for his work. In this category falls the defence services and elsewhere in this edition of "Amateur Radio" will be found a story of what the Amateur can do in defence even whilst carrying on his work in other fields.

To say that Amateurs serve no useful purpose is so very false because many of the highest technical posts in the conntry are held by Amateurs; it is because they were initially Amateurs which encouraged them to study further into the world of electronics—a world which is daily crying out for more and more technical skill.

FEDERAL EXECUTIVE.

THE CONTENTS

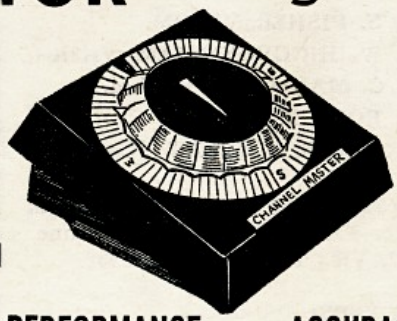
CHANNEL MASTER

Presents two striking new concepts in . . .

AUTOMATIC ROTATOR design

features . . .

- FINER TUNING
- FLEXIBILITY
- FOOL-PROOF CONTROL BOX
- HIGHER TORQUE
- SIMPLE & MORE FUNCTIONAL DESIGN



Completely New Circuit Principle Delivers **MORE POWER . . . PERFORMANCE . . . ACCURACY**

INSTANT STOPPING ACTION

Automatic brake immediately locks the antenna in the exact position you want. Prevents coasting and wind-milling. Brake is released only when motor is energised.

● SPUR TYPE GEAR DESIGN
Generates less friction . . . delivers more power to the output shaft.

● INDIVIDUALLY ADJUSTED IDLER ARM fits exactly into gear train for optimum gear meshing . . . eliminates back-lash.

PINPOINT ACCURACY

Rotator turns at one r.p.m. through 365 degrees. Ample time to orient antenna to the optimum position for each channel. Electrical and mechanical stops prevent drift. Stopping and reversing is instantaneous.

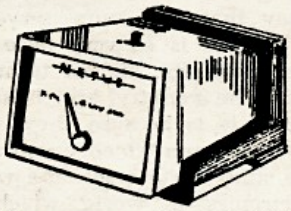
FRICTION-FREE, STRAIN-FREE ROLLER BALL THRUST BEARING

PRECISION-MACHINED, HEAVY-DUTY GEARS

Heavy duty brass and steel machine-cut gears set to within 0.002 inch. Bull gear is 3 inch in diameter and 3/16 inch thick. Teeth sink in deep—can't strip even in hurricane-force winds. No slip, no backlash, no binding. Gears have own roller ball thrust bearing.

WEATHER-PROOF HOUSING

Vinyl umbrella washer and one-piece high strength aluminium casting seals entire drive unit against all outside weather conditions.



MODEL No. 9522
COMPASS ROTATOR

Has same mast head rotator unit as Automatic 9524. Manually operated finger tip bar control switch permits easy and positive setting and stopping of antenna for best pix quality. Compass dial indicator shows direction of antenna through 360 degrees rotation.

Additional on/off switch cuts power from transformer primary when rotator is not in use.

"AUTOMATIC" ROTATOR Model No. 9524

Gear ratio 3200 to 1. Holds stationary and rotating masts from ¾ to 2 ". 4¼" bite on Antenna Mast, 4¾" bite on Support Mast. 240v. 50 cycle A.C. 90 Watts A.C. input. Shipping weight 13 lbs. Three-conductor rotor wire. (When four-conductor wire is used, 4th wire can double up on power line.) 365 degrees rotation in 60 sec. (1 r.p.m.)

ACCESSORIES AVAILABLE

Heavy duty ball bearing guy rings, for extra large stacked arrays. Three- and four-conductor flat ribbon rotator cable.

ALL MOVING PARTS ARE WEATHER RESISTANT

A special lubricant, developed by the U.S. Army, protects the inner workings of the new rotator. It has an extremely low freezing point—minus 70 degrees Fahrenheit—and an extremely high melting point—plus 370 degrees Fahrenheit—and is absolutely waterproof.

Feature for Feature . . . the **"AUTOMATIC"** *turns in a class by itself!*

CHANNEL MASTER PTY. LIMITED

MELBOURNE: 42-3141. BRISBANE: 56-0102. NEWCASTLE: 61-5071. WOLLONGONG: B 1922. CANBERRA: Jack Kryger & Co., J 1569. TOWNSVILLE: Frank P. Withford, Phone 3444. ROCKHAMPTON: Tom Mungall, Phone 4041. SYDNEY: Cnr. William and McElhone Streets, 35-4356.

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NARROW BAND F.M.

P. A. LOWE, VK3ZDO*

FOR quite a long time the author has regarded f.m. as more desirable than a.m. for local work on the v.h.f. bands. Until recently this view was held on theoretical grounds, but a recent trial has confirmed its practical advantages.

An f.m. signal may be generated by modulating the oscillator of a conventional c.w. or a.m. transmitter. Fig. 1 shows a simple method of frequency modulating an existing v.f.o. A junction silicon diode (type 1N1169) is used as a variable capacity device, back bias is not applied from an external source but is presumably derived by rectification of r.f. from the v.f.o. Audio is obtained from the existing a.m. modulator. Fig. 2 shows the arrangement of the components in the tuning box of the v.f.o. in the writer's unit.

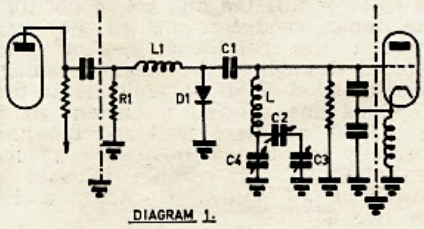


DIAGRAM 1.

C1 5 pF., R1 100K, L1 2.5mH. r.f.c., D1 1N1169.

In order to maintain the deviation constant it is desirable to apply some sort of a.g.c. to the modulator (e.g. a clipper filter arrangement). If this is not done, when the voice is raised (as in a DX opening) the signal will become rather broad, much to the annoyance of those nearby.

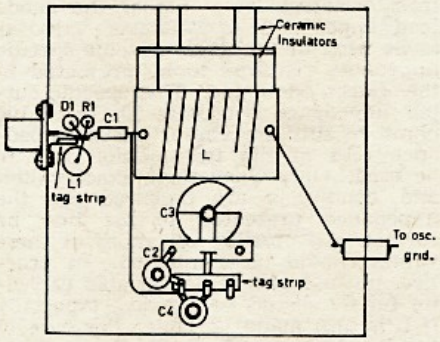


DIAGRAM 2.

From the receiving angle, f.m. is the only system by which complete amplitude limiting may be obtained without distorting the signal. This means that all a.m. components, including man-made noise, can be removed from the incoming signal. This is a very real advantage in most city and suburban locations. Amplitude limiting such as this will also eliminate fading, as experienced in mobile work on any band and may even be of advantage in DX work on 6 metre Es.

* Ormond College, University of Melbourne, Parkville, N.2.

The main problem in f.m. reception is that to realise the full advantages of this system fairly complex demodulating circuitry is required. The unit to be described for this purpose is perhaps a fairly simple answer. This unit was first used in the U.S.A. as a 5 metre receiver to demodulate modulated oscillators. Just after the war the circuit appeared in "QST" for use with a 200 kc. i.f. and it has most recently appeared in June 1960 "QST" for use with an i.f. of 80 kc. The constants in each circuit are almost the same, the variations being minor and apparently of no practical importance.

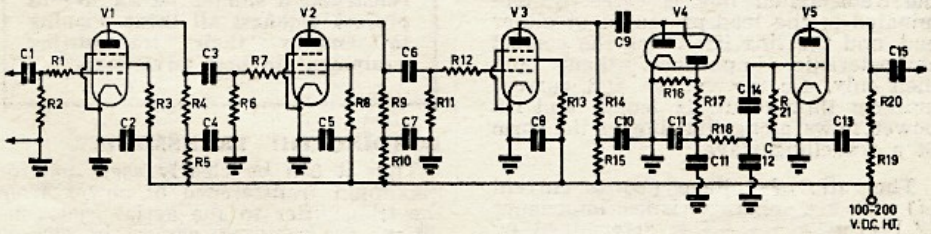


DIAGRAM 3.

C1, C3, C6—47 pF.
C2, C4, C5, C7—0.01 μF.
C8—0.1 μF.
C9—25 pF.
C10—0.5 μF.
C11, C12—0.002 μF.
C13—0.05 μF.
C14, C15—0.005 μF.
R1, R3, R8, R13—100K ohms.
R2, R4, R7, R9, R14, R20—15K ohms.
R5, R10—2.2K ohms.
R6—33K ohms.
R11—22K ohms.
R12—8.2K ohms.
R15—27K ohms.
R16—47K ohms.
R17, R18—6.8K ohms.
R19—1K ohms.
R21—500K ohms.
V1, V2, V3—6AK5 or 6AC7.
V4—6AL5 or 6H6.
V5—6C4 or 6J5.

Notes: The suppressor grid of the 6AK5 is internally connected.

The value of C10 determines the base response of the unit. This being greater when C10 is large.

The circuit is shown in Fig. 3. To insert the unit in the receiver it is necessary to provide an i.f. output, an audio input, and some means of disconnecting the a.m. detector (see Fig. 4).

V1, V2, and V3 are audio limiting, the output from these being square waves, which actuate a pulse counting type detector V4. V5 is an extra audio stage if necessary. At the low h.t. used, the valves recommended for V5 run at zero grid bias.

The acceptable deviation for this unit is governed by the passband of the i.f. strip. If the received signal is too, broad gross distortion results. Limiting may be adjusted with the receiver r.f. gain control and results have been found quite satisfactory in eliminating car noise, electric drills, etc.

Active in Melbourne on 6 metre f.m. are VKs 3BX, 3ZEL and 3ZFS. They are using a net frequency of 50.97 Mc. VK3ZFS also is on 50.32 Mc. This group is using converted superseded commercial units. Such units may appear on the general market before long. These units are basically for broadband f.m., but have facilities for reducing the deviation. Jim VK3ZFS will be active mobile soon and anticipates being on the air every afternoon on his way to and from work; and as he works on Mt. Dandenong he should put out quite a reliable signal.

F.m. also has its advantages on the h.f. bands. Those troubled with particularly obstinate cases of b.c.i. will find that f.m. should produce a satisfactory cure. Most b.c.i. is due to cross modulation or audio break-through when an a.m. signal is used, an fm.. signal will not produce these effects, so eliminating the trouble. Those who have used narrow band f.m. on these bands find that there is little to choose between it and a.m. of equivalent power.

F.m. activity is appearing in Melbourne, but I know little of happenings in other parts so if anyone would like to drop me a line to the address shown, I will include the information in a further letter.

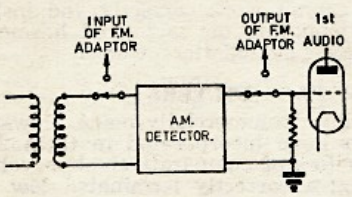


DIAGRAM 4.

☆

AMATEURS! YOU CAN ASSIST TO PUBLICISE OUR HOBBY

The Elizabeth Amateur Radio Club will be operating its Club Station, VK5LZ, at the Elizabeth Birthday Celebrations to be held in November. The station will be on the air from Friday evening, 24th November, until Saturday evening, 25th November.

To make the display more interesting to the public, the Club will be looking for plenty of good contacts on 40 and 80 metres. All Elizabeth Amateurs will be on during the Saturday so if you are interested in obtaining an "Elizabeth Award" a good opportunity will be during that day.

THE ANTENNAMATCH*

Part 1.—General Considerations of a New Aid to Maximum Efficiency in Aerial Matching

F. HICKS-ARNOLD (G6MB)

IT is a fundamental truism that "any given aerial is only as good as the matching between it and the transmitter permit it to be." Unfortunately, this is all too often overlooked and much useful power is wasted on its way to the radiator.

Power transfer from the transmitter to the aerial system is nearly always carried out by the use of some form of transmission line between the output of the transmitter and some convenient feed point along the aerial itself. When the transmission line is correctly terminated to the load presented at either end, and the line itself has the correct characteristic impedance, then, and then only, are the voltage and current uniform throughout its length and r.f. power flows along the line in the form of a travelling wave.

The ratio of voltage (V) to current (I) is the characteristic impedance (Z_0) of the line and is determined by its type of construction. Correct matching and uniform travelling wave occur when the aerial load is equal to Z_0 and the load offered to the transmitter is also Z_0. If the load at the aerial or end of line remote from the transmitter is of a pure resistive nature and of Z_0 impedance, then it will accept all the power which the line offers. Should this not be so, a second travelling wave will be reflected back from the load to the source of power.

The interaction between the forward travelling or power wave and the reflected backward travelling or loss of power wave results in periodic variations of V and I along the line, referred to as standing waves. The impedance V/I offered to the transmitter now depends on the degree of mismatch and the length of the transmission line, since for every volt offered to the line by the transmitter there is a reflected voltage fed back along the line. The phase angle between the forward and reflected voltages may be of any relative angle depending on the length of the line and may either aid or oppose the transmitter. If the mismatch is severe it may be difficult to load the transmitter correctly, and as the average current in the line is increased, so is power lost by line resistance also increased. If the load presented to the transmission line is of Z_0 impedance and purely resistive, then the phase angle of voltage and current flowing along the line will be zero, and the total power presented to the line will be accepted by the load. Should the load be not purely resistive, but reflect back either capacitive or inductive reactance, then the phase angle will change from zero to a figure depending on the magnitude of the reactance and of a sign determined by whether the reactance is capacitive or inductive.

* Reprinted from R.S.G.B. "Bulletin," May '55.

● It is never very easy to be quite sure that a transmitter is delivering maximum power to its radiating system but the instrument to be described in this and the succeeding article enables the necessary measurements to be made quickly and simply. The Antennamatch is one of those devices which, once installed, is likely to leave the user wondering how he ever managed without it. Its construction should be an urgent project amongst all those wishing to employ their transmitting equipment to best advantage.

LOADING THE TRANSMITTER

Thus it can be clearly seen that for maximum transference of power from the transmitter to the aerial two conditions are required: correct impedance and zero phase angle. The ratio between forward and reflected current in a transmission line is called the Reflection Coefficient K and is related to the standing wave ratio by the equation:

$$\text{S.W.R.} = \frac{1 + K}{1 - K}$$

K is always less than unity, since the load cannot reflect more current than it receives, so that for a perfect match K is zero.

If these two conditions are not present, difficulty will be found in loading the transmitter with the correct coupling. How many of us have been guilty of adding another couple of turns to the link coupling to the p.a. tank when it appears that the final will not load to the correct value? Such expediency is unforgivable and quite useless as a method of getting more power into the aerial—it serves only to increase the standing wave ratio on the line and to increase the circulating current, thus further increasing losses by heat and reactance thrown back along the line.

With the ever increasing popularity of the pi-network and its advantages for harmonic reduction, correct matching between the final stage and the aerial becomes even more important. If the load presented is not correct, the Q of the final tank circuit will not be as the designer intended, and efficiency will be reduced. Should there be standing waves on the transmission line, a "low pass filter" inserted in the line cannot work correctly and instead of attenuating the undesired harmonics it may make matters worse.

LOW PASS FILTERS

Many commercially-made low-pass filters have incorporated in them fixed capacitors of comparatively low voltage rating; a correctly terminated low impedance line has a voltage across it well within the rating of such capacitors, but should the filter be introduced at a point where high voltages exist (due to standing waves caused by incorrect load matching) then there is every likelihood of the capacitors breaking down and destroying the filter. In fact these very points were brought home to the writer when using parallel 807s in a final stage and a pi-network for matching the anode impedance of the 807s to 75 ohms. The low impedance line from the transmitter (75 ohms) to the aerial matching network was terminated by a single turn Faraday screened link. This single turn was made from the same coaxial cable as the line, and was of a rating suitable for 150 watts input to the transmitter. In spite of this the link got so hot that the inner conductor melted its way through the polythene insulant and shorted through to the outer screening. The insertion of an r.f. ammeter in the 75 ohms line showed a current of 6 amps.! If all were well and the line correctly terminated, then such a current into 75 ohms would indicate a power of 2.7 kilowatts—rather a lot for two 807s!

It was evident therefore that all was **not** well and that a bad standing wave existed on the 75 ohm line.

THE PI-NETWORK CIRCUIT

For a pi-network final, conditions for C1-L-C2 must be of the correct calculated value for the frequency in use, and the Q value desired in the network. The network has a specific job to do—and that is to give an impedance transformation from that of the anode load impedance, of whatever valve is to be used in the final, to some specific impedance required to be presented to the transmission line. This specific output impedance is usually 50, 75 or 100 ohms to suit the characteristic impedance (Z_0) of the transmission line to be used. Only when these exact values and conditions are observed can the impedance presented to the line be correct. All possible variations of these values should be eliminated. In practice, the use of a large variable capacitor for C2 should be avoided, especially if L is also made variable. For ease of band switching C2 should be a fixed value as calculated for conditions required, and L either tapped and switched or made variable.

Theoretically, it can be shown that for any given set of conditions the values of C1-L-C2 are fixed and of one value only and can be made so in the transmitter; in practice, due to variations in the mains voltage and changes from one end of the band to the other, it is desirable to have some control of the final loading. Such a control can be arranged so that C2 is made up of a fixed value to very nearly the correct theoretical value, plus a small amount of variable capacity in parallel to take

care of voltage and frequency changes. Better still, the whole of C2 should be fixed at the correct value and L made variable. With C1 and L at resonance and with the final stage operating under correct conditions of input, one can be sure that the impedance at the output and presented to the power end of the line will be of the correct calculated Z_o.

PI-NETWORK CALCULATIONS

Methods of calculating values for C1, L and C2 have been described many times both in the "Bulletin" and other technical journals and the writer would refer the reader to a most excellent article entitled "The Design of Pi-network Tank Circuits" by H. Whalley (G2HW) in the R.S.G.B. "Bulletin" for April 1952.

It may be as well, however, to re-emphasise here some of the more important points to bear in mind when designing such networks. In order to calculate the values of C1-L-C2 for any given frequency it is necessary to know the values of R1 and R2, which are the resistances to be matched and XC1, XL and XC2 which are the reactances of the network components (see Fig. 1).

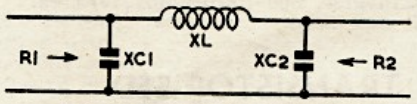


Fig. 1.—Pi-network suitable for harmonic suppression.

In such a network the sum of the capacitive reactances must be equal to the inductive reactances when at resonance, and of a suitable Q value, in order to give the "flywheel effect" so essential for the operation of Class C r.f. amplifiers. Q values from 10 to 15 are suitable for efficient operation of the p.a. and for reasons explained in the article already referred to, the impedance ratio to be matched, i.e. R1 to R2, should be appreciably less than 100 : 1. R1 is the resistive impedance that the p.a. must work into in order to deliver its rated power output.

In class C operation and steady carrier condition, the r.f. voltage at the anode of the p.a. valve is about 80% of the d.c. supply voltage. If the h.t. voltage be called Eb, then the peak r.f. voltage will be 0.8 Eb, and the r.m.s. value of this voltage E will be 0.707 × 0.8 × Eb or 0.57 Eb. The r.f. power actually delivered from the p.a. valve may be taken as 66% of the d.c. power input. This power is delivered into the effective anode load R1, thus $E^2/R1 = P$, and $R1 = (0.57\ Eb)^2/P$. R2 is the surge impedance of the transmission line to the aerial system and in many cases will be around 75 ohms. This value will not be affected by the inclusion of a low-pass filter provided the line is correctly terminated by the aerial system and the filter has been designed for an impedance input of 75 ohms.

PRACTICAL EXAMPLE

Taking a specific example, suppose that the d.c. input to the final is 750 volts at 200 mA. (150 watts input). Then Eb will be 750 and P will be 100.

From the formula,

$$R1 = \frac{(0.57 \times 750)^2}{100}$$

$$= \frac{427.5^2}{100} = 1830 \text{ ohms.}$$

$$R2 = 75 \text{ ohms, and}$$

$$\frac{R1}{R2} = \frac{1830}{75} = 23 : 1$$

For convenience and greater ease of the use of the excellent graphs in Whalley's article, an answer sufficiently correct can be found from R1 = 2,000 ohms, R2 = 75 ohms, and R1 : R2 = 25 : 1, and the circuit Q value 12. From the curves we then get XC1 = 185, XL = 220, and XC2 = 25. From reactance tables the exact value of C1-L-C2 for each frequency required can be obtained. Since 750V × 200 mA. is a popular condition, using such valves as a 4D22, 829B and QV06/40 (sections in parallel) or a pair of 807s in parallel, actual values are given in Table 1.

Freq.	C1	L	C2
3.5 Mc.	250 pF.	9.5 μH.	1400 pF.
7.0 „	125 „	5.0 „	650 „
14.0 „	65 „	2.5 „	300 „
21.0 „	40 „	1.75 „	210 „
28.0 „	30 „	1.2 „	150 „

Table 1.—Values of C1-L-C2 for conditions of 750 volts at 200 mA. and Q of 12.

For efficient operation and good harmonic reduction the ratio of R1/R2 should be as low as possible and the Q kept at 10 or 12. For this reason low voltage and high current type valves are easier to use with good efficiency than those of the 4/65A or 813 types using high anode voltages.

With these features established and put into operation, one can be sure that the correct impedance will be presented to the power input end of the transmission line. There remains then only the problem of ensuring that the load or aerial will reflect back a similarly correct impedance at zero phase angle, for the total power generated by the transmitter to be transferred to the aerial. (Ignoring normal line losses which cannot be avoided.)

MATCHING THE TRANSMITTER TO THE AERIAL

Unfortunately this problem is not so simple to resolve—somehow the aerial has to be arranged so that when coupled to the low impedance transmission line from the transmitter, it "looks back" along the line as a pure resistance of 75 ohms. Many devices have been used in Amateur Radio to tell when the transmitter is matched to its aerial load: impedance bridges, r.f. ammeters, s.w.r. detectors and similar devices all supply valuable information. Not one of them, however, is capable of telling the whole story. Ideally, what is required is some device that can be inserted in the low impedance line between the transmitter and the aerial matching network, a device that can be left permanently in the circuit and capable of passing the full power from the transmitter. This apparatus must be able to detect any deviation from correct impedance and zero phase angle and be able to compare these factors directly with conditions set up in a perfect load.

Such a device is The Antennamatch which has been devised and adapted for Amateur use from a unit designed by Virgil True of the U.S. Naval Research Laboratories. It was originally intended to drive an automatic aerial tuning system and is capable of furnishing valuable visual information for any radiating system.

The Antennamatch as now developed and adapted will furnish the following information:

- It will indicate when the load impedance is of the desired magnitude or if it is too high or too low.
- It will indicate when the load is non-reactive, or if not, whether the reactance thrown back is capacitive or inductive.
- When the load has been adjusted to the correct and desired value and is non-reactive, it will indicate the power output from the transmitter as accepted by the aerial.

The device consists essentially of three measuring instruments in one unit:

(1) Impedance magnitude detector. (2) A phase angle indicator. (3) An output section containing an r.f. ammeter and a dummy aerial. The particular version described in this article is designed for use with 75 ohm line and a maximum r.f. power of 100 watts.

The theory of the impedance magnitude and phase angle detectors is not at first glance apparent and the following brief explanation as to their working may serve to show their particular suitability for helping to solve most of our aerial matching problems. Fig. 2 shows the essential circuitry of both the impedance detector and the phase angle detector.

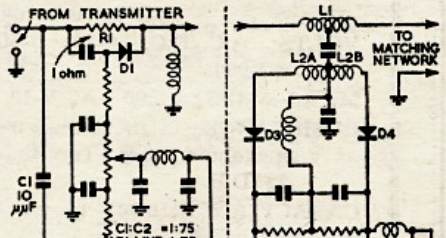


Fig. 2.—(a) Circuit diagram of the impedance magnitude detector. (b) Circuit diagram of the phase angle detector.

IMPEDANCE DETECTOR

From Fig. 2a we see that a resistor is placed in series with the transmission line. The r.f. voltage drop across this resistance is detected by means of a crystal diode D1. At the same time a voltage which is a portion of the line voltage is applied to a second diode D2. The voltage applied to D2 is a constant fraction of the line voltage, determined by the ratio of C1 to C2. The voltage applied to D1 is the voltage drop across the one ohm resistance R1 inserted in series with the line. The ratio of C1 to C2 is approximately 1 to 75, thus when the total load impedance meas-

ured at the output of the sensing circuit is 75 ohms, the voltage applied to D1 is 1/76 the line voltage, i.e. the same magnitude as the voltage applied to D2. We have therefore two arms of a bridge circuit and the d.c. output voltage will be zero.

The accuracy of this circuit is such that as the ratio of C1 to C2 is 1 to 75; at balance condition the impedance seen by the sensing unit is 74 ohms. The terminal impedance to the feeder line then 74 ohms plus the one ohm series resistance or 75 ohms. If the terminal load impedance is greater than 74 ohms, the voltage applied to D1 is less than the voltage applied to D2 and the d.c. output will be positive. Conversely, if the load impedance is less than 74 ohms the voltage applied to D1 is greater than the voltage applied to D2 and the d.c. output will be negative. Such a d.c. response varying both in polarity and magnitude according to whether any incorrect load presented to the output side of the detector is either too high or too low in impedance is ideal for indication on a centre zero reading meter or for operating a servo controlled balancing system.

THE PHASE ANGLE DETECTOR

The phase angle detector (Fig. 2b) consists essentially of an inductance in series with the line, coupled to another inductance across which a Foster-Seeley type of discriminator is connected. The coupled inductance is centre tapped and is in effect two inductances L2A and L2B in series. The voltage applied to D3 (a crystal diode) is the vector sum of VC2 (a voltage in phase with the line voltage) and VL2A an induced voltage that leads the line current by 90°. Similarly the voltage applied to D4 is the vector sum of VC2 and VL2B, an induced voltage that lags the line current by 90°. The d.c. voltage VO is the difference in magnitude of these two rectified voltages.

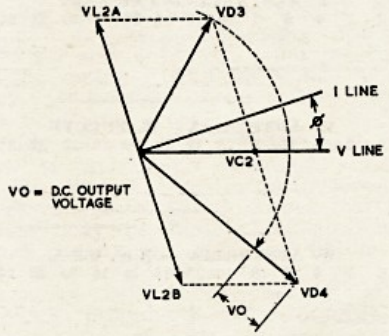


Fig. 3.—Vector diagram of the phase angle detector.

A study of the vector diagram (Fig. 3) reveals that as the phase angle goes to zero, when the load becomes purely resistive, the output of the circuit goes to zero, and that the sign of the error voltage is dependent upon the sign of the phase angle and whether the change be caused by an inductive or capacitive reaction reflection. These are the two prime requisites of a detector to control a servo system or indicate on a centre zero reading meter. Another desirable feature of this circuit is that the sensitivity, defined by the rate of change of voltage out with respect to a change in phase angle, occurs in the neighbourhood of zero phase angle. This permits extremely accurate phase angle correction.

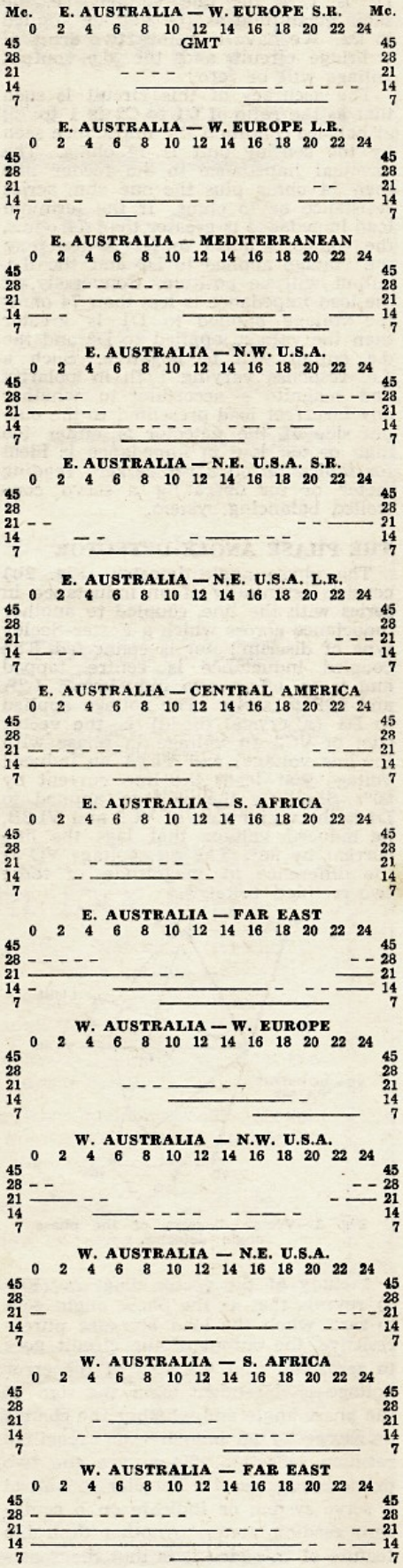
From this theoretical explanation of the working of the impedance and phase angle detectors, it will be seen that the output from **both** detectors is zero when the terminal impedance of the line is 75 ohms in magnitude and has a phase angle of zero degrees. This is the condition for a perfect match between aerial and feeder line, and as such, a condition for maximum transference of power from transmitter to aerial.

When in practical use, the output side of the detectors is first connected to an ideal pure resistive load (i.e. dummy aerial) and the transmitter set up to its tuned up condition (i.e. minimum dip on the p.a. current meter at the correct current reading in loaded condition). In our specific example previously mentioned this would be 200 mA. with the anode volts at 750. As the transmitter will then be operating into the correct load, both centre zero reading meters on the detectors should read zero. If this is not the case, small corrections can be made by use of the two variable potentiometers. The purpose of the potentiometers is to bring about a correct balance and to permit of some variation in the fixed ratio of C1 to C2 or R1 from one ohm thereby making the circuit components less critical.

The transmitter having been correctly set up into the dummy load the output is then switched to the aerial matching network which is so adjusted to bring both indicating meters to their centre zero point. When this has been achieved the aerial should present the correct load and accept the same power at exactly the same d.c. input to the p.a.

(Part 2, to be published next month, will describe the construction and use of the Antennamatch.)

PREDICTION CHART, SEPT. '61



A SPECIAL PLACE FOR THE RADIO AMATEUR IN NATIONAL DEFENCE

Part-Time Service with the Citizen Air Force (Auxiliary) Squadrons

DO you, the Radio Amateur, realise that, because of your special skills, you have a lot to contribute to the national defence of Australia?

Are you aware that training is available to you which will increase your contribution and at the same time broaden your own knowledge of Radio?

If you cannot answer these questions in the affirmative, the following article will tell you how part time, paid service in the Citizen Air Force can help the nation and help you.

WHY WE HAVE A CITIZEN AIR FORCE

In time of war or national emergency the R.A.A.F. will be required to step up its activities. Certain sections of the R.A.A.F. will need greater numbers of skilled technicians and tradesmen to cope with the increased amount of work. It is the task of the Citizen Air Force squadrons during peace to convert skilled men to R.A.A.F. procedures and equipment so that they will be immediately available for productive service in time of war. It is considered that in a future war there will not be sufficient time for men to be trained as was the case in World War II. This leads to common acceptance of the fact that we will fight with what we have at the outbreak, and the C.A.F. auxiliary squadrons will be a part of "what we have".

This concept of C.A.F. service is not new to the Radio Amateur. Before World War II. the R.A.A.F. Wireless Reserve was formed to ensure that the large body of Radio Amateurs, who were willing to serve the nation in wartime, would be better equipped to do so by being trained beforehand in R.A.A.F. procedures and equipment.

This organisation was of tremendous importance to the R.A.A.F. when war broke out. Its members quickly filled key posts in the larger R.A.A.F. allowing a great expansion to take place very rapidly. By the end of the war many members had reached senior rank and one had become a Group Captain.

C.A.F. squadrons exist in five of the States and are located at bases adjacent to their respective capital cities as follows:—

Victoria: No. 21 City of Melbourne (A) Squadron, R.A.A.F. Base. **Laverton.**

New South Wales: No. 22 City of Sydney (A) Squadron, R.A.A.F. Base, **Richmond.**

Queensland: No. 23 City of Brisbane (A) Squadron, R.A.A.F. Base, **Amberley.**

South Australia: No. 24 City of Adelaide (A) Squadron, R.A.A.F. Base, **Edinburgh.**

Western Australia: No. 25 City of Perth (A) Squadron, R.A.A.F. Base, **Pearce.**

Each of these squadrons utilises the training facilities available on the base and as these vary from base to base the squadrons have slightly different requirements for technical personnel. For instance, No. 21 Squadron is mainly interested in you, the Radio Amateur, because the R.A.A.F. School of Radio is also based on R.A.A.F. Laverton and extensive facilities are available for training radio technicians, telecommunications technicians and operators. A limited number of suitably qualified personnel are also required for training as airframe and engine mechanics and fitters.

THE IMPORTANCE OF RADIO AND COMMUNICATIONS TO R.A.A.F.

During an increase in R.A.A.F. activities in war or national emergency, one of the first elements to feel the strain is that concerned with message handling. It becomes necessary for 24-hour watches to be maintained, thus requiring more operators. The handling of more traffic means less time for servicing and maintaining the transmitting and receiving equipment. Much the same considerations apply to the equipment used in connection with aircraft, such as navigational aids, control tower equipment and radio and radar gear carried in aircraft.

To keep the aircraft flying at a high rate, serviceable radio equipment, whether on the ground or in the air, is just as important as an adequate supply of fuel, bombs, ammunition or missiles. This is particularly so in these days when aircraft operate in all types of weather and rely exclusively on radio and radar for navigation and, in many cases, for weapon releases. It is clear, therefore, that increased numbers of skilled radio and communications personnel are required to carry out repairs and service the various equipments in the shortest possible time.

During war an aircraft, grounded through unserviceability, is of no use at all. Similarly, unserviceable communications equipment or shortage of operators will soon cause a backlog of messages which will lead inevitably to delays and difficulties in the planning and execution of flying operations.

ADVANTAGES OF C.A.F. SERVICE TO THE INDIVIDUAL

Apart from the needs of the R.A.A.F. for more airmen in a war or national emergency, which have been outlined above, there are some definite advantages to be gained by the individual who elects to serve in the C.A.F.

Once in the C.A.F. an airman has access to different and more advanced equipments than those normally available to the average civilian. This being so, he will obviously enhance his value, and thereby his prospects of advancement in his civilian employment. If he is strictly a hobbyist he will certainly improve his technical knowledge.

The comradeship which C.A.F. service offers is similar to that which exists in a club. Men with common interests are grouped together and form a team. The members of this team learn to work and act together and by doing so build up a spirit of mutual reliance and pride in their group. From this a keen spirit of rivalry and competition is built up between the various groups, which in the R.A.A.F. are called flights or sections, and ultimately between the five squadrons.

Each year the C.A.F. squadrons proceed Interstate by service aircraft for a continuous technical training camp lasting up to 16 days. This period is the time when the training which has been carried out at home bases is thoroughly tested under operational conditions. The C.A.F. airman works alongside his counterpart in the Permanent Air Force and if he does this successfully he has achieved his goal. This year No. 21 Squadron will proceed to Townsville in early September for one week. "On the job" training will be provided for the second week of the camp at Laverton.

The prospect of promotion in C.A.F. squadrons is good for the right type of individual. Initial periods of enlistment are for two years, followed by subsequent re-engagements of one year. A training year consists of up to 52 days which is made up of 12 week-ends and a 16-day continuous camp, totalling 40 days. The remaining 12 days may be made up of "on the job" training by mutual arrangement between the member concerned and his particular squadron.

C.A.F. service costs the member nothing. He receives pay for each day of attendance. His uniform, accommodation and meals are provided and he receives an allowance for fares to and from training parades. However, he must live within a 50-mile radius of the location of the C.A.F. squadron to which he belongs.

It is therefore clear that part-time service in the Citizen Air Force is extremely worthwhile to Radio Amateurs who have the qualifications and the time to spare. Should a situation arise where mobilisation is ordered,

(Continued on Page 12)

FOURTH

JAMBOREE-ON-THE-AIR

21st and 22nd OCT. '61

Time of commencement: 1000 hrs. Sat. 21st. Duration: 48 hrs.

Interest in this event is growing rapidly, as more and more Amateurs and Scout Groups are getting together to arrange their participation. In most cases the Scouts and Cubs are being invited to visit the Amateur Stations, but in some areas portable stations will be set up in the Scout Halls and Camps. Radio Clubs are offering their full co-operation; the outstanding one so far is the possibility of the Moorabbin Radio Club setting up a portable station at Clifford Park. 500 Senior Scouts from all over Victoria are expected to be in camp there for the week-end.

In areas where there are no Amateur Stations available, listening groups will be established. It is hoped that s.w.l's. will help in this way and submit logs.

The following Amateurs have accepted appointment on behalf of the Boy Scouts Association of Victoria to assist with the co-ordination. They will be available on Tuesday and Thursday evenings on 80 metres from 2030 hours.

VK3ARL—Lin Brown, Eastern Melbourne Suburbs.
VK3WC—Ewan Cameron, Western Melbourne Suburbs.
VK3AUL—Arthur Lock, Central and North-Eastern Area.
VK3AKW—Bill Kinsella, Central Western Area.
VK3ZK—Jim Stevens, North Western Area.
VK3TH—Gordon Morrison, Gippsland.
VK3ABT—Jim Barber, Geelong Area.
VK3AGD—John Woodburn, South Western Area.

D X

Alan Shawsmith, VK4SS
35 Whynot Street, West End,
Brisbane, Qld.
Phone 4-6526 (7 a.m.-4 p.m.)

It would seem that conditions during July hardly came up to expectations. 7 Mc. has been particularly poor and from a prefix point of view very disappointing. Apart from W and J very little else has been heard or wkd. here. By all predictions, 7 Mc. should have been better than this.

14 Mc. has been better, but again new prefixes or countries are hard to come by. The solar activity which affected the bands here for about three days from the 19th, produced a few gratifying results. On the morning of the abovementioned date, the band was wide open to LU via the up and over path, i.e. via the Mediterranean and down the east coast of South America. It is exceptional to have such a long path circuit open at this hour in this area.

On the 20th and 21st, the band remained open to Europe on the S.R. until well into the day. Apart from this the 20 mx band seemed to be its normal mediocre self and rather lifeless at night.

VK activity was also down this month, quite markedly. The bed, with its warm blankets, is certainly more attractive than a DX-less band these bitter nights—or could some of you be afflicted in a manner similar to the VE, of whom you will read at the end of this column.

NOTES AND NEWS

John 5A5TA is particularly anxious to work VK7 and VK9. His operating times are 0600 GMT L.R. and around 2100 hrs. GMT S.R. 14 Mc. cw. sigs from his beam are good via both ways.

The Europeans and Ws are still calling TT8AC. Has any VK wkd. him? It is reported he is also on 14 Mc. phone as well as c.w.

Danny Weil, VP2VB, now plans to set sail for the South Seas in the first week of September with quite an itinerary of rare spots on the programme.

Alan VR4CV is to be heard regularly on 14 Mc. c.w. steadily working his way through the waiting queues. He responds readily to VK calls and has worked quite a few.

Anatol UT5CC is a Russian with very good English for those who like to rag chew, but don't get excited over the call, it's the same area as UB5.

YN0NWO may be good for W.P.X. 14 Mc. c.w. at 0600 hrs. GMT.

CN2BK sneaks in out of the silence on 7 Mc. sometimes around 0600 hrs. GMT.

For those who want Monarco for D.X.C.C. may achieve it with 3A2BV. 14 Mc. c.w. around 2100 hrs. GMT.

VP3YG is still working 7 Mc. c.w. sometimes around 1000 hrs. GMT.

YJ1ZA is on 14 Mc. s.s.b. and as might be expected, very busy each time he appears around 0700z.

VK9AM is active from Nauru, on 14 Mc. a.m. I don't think many VKs worked 9K3TL. This was an Expedition to the Neutral Zone of Kuwait.

BY1PK—S9 plus around 2100z 14 Mc. c.w.

VP7NQ—peaks through rather weakly around 0700 hrs. GMT 14 Mc. c.w.

ACTIVITIES

David VK3QV keeps his ear on 28 Mc. and reports that the band opens up often to W land around 0200z. They have been wkg. ZL but not VK. He wkd. JA3BEA, JA4OI, W5LKP, VK6RG and heard CO2AM, K6CT, W0JSZ and others. He recd. QSLs from UA3KND, UA-0LBQ, ZC4AB, ZS6ARX. (Thks David, and pse don't forget the column when the band comes to life in spring.)

Hal VK4DO has not been very active this month because the bands at his QTH have been dead after dark. He reports working 7 Mc. a.m. VR2DI, 14 Mc. c.w. F3JE, HA4KYB, OK1ADP, OK1FO, OK1SV, UA0EW, UA0LL, VE7BFN, VP7NQ, W, K, etc. 14 c.w. heard: BV1USA, DM3RD, FA8JO, I1CFY, I1CRY, OK-1CG, LZ1DZ, UA0CF, UA0KKD. 14 Mc. a.m. worked: W and K. 14 Mc. a.m. heard: HC1FG, KX6AF, YV5AQ.

Tubby VK5NO has taken the trouble to send me a good coverage report which shows plainly a better set of July conditions there in VK5 than we experienced in the tropics. He says 28 Mc. has been open to W around 0000z. 21 Mc. also open to the States. Best times were around 2200z and 0730z. Some Southern Europeans (CT, EA) and a few others (G, F, etc.) on the long path around 2300z, and sometimes good openings on the short path about 0800z. Southern and Eastern Asia and Africa are workable in the late afternoon. Conditions generally worsened, as the month progressed; no good after dark.

14 Mc.: Extremely good most of the day—Asians and nearer Pacific stations start coming in at 2100z, followed by Northern and Southern Europe, and (on the long path) Central and South America. Band opens to Europe on the long path and South America on the short path shortly before 0230z; at about 0500z the Stateside stations come up to S9, and last till 0830z. In the evenings the Eastern Asians are very good until about 1200z, when Western Asia and Eastern Europe come in. We have noticed several Zone 35 Africans on the long path at about 0630z and these seem very keen to work VKs. The band is beginning to open to Europe at 2100z.

7 Mc.: Americans and JAs are easy to work in the evenings. Europeans are still coming in here in the mornings, but not workable, probably due to the European QRM.

His best worked on 14 Mc. c.w. were: 5N2LKZ (0800z), OH0A (1415z), ZK1AK (0830z), UF6FN (1415z), HM8BM (1300z), VR4CV (2100z), HM4AQ (2300z), UA0YA (2330z). 14 Mc. phone: HM4AQ (1300z), VR4CB (0645z), FB8ZZ (0820z).

Don L2022 sends in a good list. 3.5 Mc. c.w.: W9BQM, K7CLL, K6PST, KW6DG, and ZLs. 7 Mc. c.w.: KG1GH, VK0DA, VP3YG, JA7FN, OK3AL, UA3GH, SM5BVF, UA3FT, OH4NC, WA6AWM, KX6EA, K7VAU, W0IZZ, K3JYE, W5EXG, K5DRG, K2HS, K4PYX, OK3AH, UA-1KAE/2, KL7BJR, KH6CFE, VR2DK, KL7BJW, KH6AXY, JA7AS, W4HQ. LZ2SP, W3QT, JA-1CIU, KH6CAH, KW6DF, VE7BCG, KX6BU, KC4USV. 7 Mc. a.m.: WA6s. 14 Mc. c.w.: UB-5JX, VK0VK, KH6GP, UA1KAE, ZK1AK, 5U7AC, HP1IE, EA3NR, VK9GP, UI8KAA, I1BVP, KC4USN, KC4AAC, DU7SV, VS1FZ, ZK1AR, UA2KAC, ZS5UR, KR6KS. 14 Mc. a.m.: XE2WC, FB8ZZ, VR4CB, VK9AM (Nauru), KG1AD, FK8AU. 14 Mc. s.s.b.: OA4DI, KH6BB, KX6NF, W4WYI/MM, HR3HH, YJ1ZA, VE3CCK, VE7PV, JA8AA. 21 Mc. a.m.: JA7UJ, W5FJS, K6VVY, KH6EDX, W5AEW, VK9CP. 21 Mc. c.w.: K4VUR, VR2AS, W9WNB, XE1VI, W5VGR. New countries heard: VK9AM, YJ1ZA, 5U7AC. Cards in: KL7BJC, DL1EE, G3GRM, ON4QX, CR5AR, YV5AJX. Considering the conditions, Don, that's a pretty good month's effort.

Eric BERS-195. 3.5 Mc. c.w.: W6BYB, 1315 GMT. 7 Mc. phone: FK8AU. 7 Mc. c.w.: DM-3FNU, OH7NF, SM5LK, SP5WL/6, SP8LR, UA4NR, UA0AQ, UC2KSB, YO7KBS, JA7YC/MM, LA5HE/M, LA7RF/M, WA6NKW/MM. 14 Mc. phone: VK9GP, VR3L (0645z). 14 Mc. c.w.: BV1US, BY1PK (0845z), FB8XX, FK8AW, HC1JU, HK1QQ, JZ0PH, KJ6BV, KM6CE, KW-6CGA, UC2BL, UI8KAA, 8KBA, UL7KAA, UR2KAN, VK9DM, VK9GP, VK0FZ, VR4CV (0730z), VU2NR, ZC4AK, ZK1AK, ZK1AR, LA-5HE/M, LA7RF/M, SM3CAE/MM. QSLs recd.: EP1AD, FQ8HW, IT1TAI, KP4AOV, MP4BCC, VR1G, VS6EP, ZS4LH, ZS6BAE, 6O1MT.

Jeff VK5NQ sends in some real choice ones. On 14 Mc. c.w. he worked 5N2LKZ (0810z), VR4CV (0800z), ZK1AK (0200z), SV0WU Crete (0230z), KV4AA (0250z), KH6EDY Kure Is. (0810z), UA0YA (Zone 23, 1340z), BV1USA (1140z), EP2AF (0318z). 14 Mc. a.m.: YO9WI (0500z). 21 Mc. c.w.: VP5GT Grand Turk at 0120z.

ADDRESSES

HB1TC is HB9TC—Willi Bodmer, Der Ey 36, Esslingen, Zurich.

HK3RQ—Dr. William Elasmar, Apartado Aereo 4468, Bogota, Colombia.

KA9MF—Field Station 8612th A.A.U., A.P.O. 181, C/o. P.M. San Francisco.

YV5AWM—Radio Club Venezolano, Apartado 2285, Caracas.

ZE1JN—Peter Berry, 7 Montgomery Ave., Umtali, S. Rhodesia.

5A3TN—Lew Birkbek, Box 372, Tripoli, Libya.

CO7HQ—Dr. Migual E. Sola F., P.O. Box 28, Camaguey, Cuba.

BV3HPT—K. K. Chen, P.O. Box 11, Hsintein, Taiwan, Rep. of China.

VR4CV—Alan. P.O. Box 49, Honiara, Guadalcanal, Solomon Is. Group.

VK1DG—David Gothard, Box 60, Canberra.

FQ8HW—Louis Bucci, Esima, Fayalargeau, Rep. of Tchad.

VP5GT—Grand Turk, A.A.F.B., Gmr Box 4187, Patrick A.F.B., Fla., U.S.A.

SUMMARY

September should see some activity on 21 Mc. As the spring matures into summer, this band may begin to show her worth. The predicted sunspot activity is low so it will be interesting to see how this band behaves. In past years during the summer it really has been good in the daylight hours.

I would like to thank Bud VK2AQJ for his s.s.b. activities, but I would like some other s.b. men to show me what DX they are working. Also, some notes and news from VK6 would be appreciated. The boys in the West face an entirely different set of conditions from us here who look out on the globe in an easterly aspect. So please, you sand gropers?

Even though 7 Mc. this past month has given us the cold shoulder, don't in return give it the brush off yet. The DX does come through at odd times and Sept. and October may see an improvement, before the summer QRN paralyses the ears.

An s.w.l. complains that no matter how long he listens, he hears only a fraction of what's printed here. This brings up the question: "Do VKs get their share of DX?" In view of our isolation geographically, I feel we do very well for ourselves, in this now highly competitive activity. If you will take a look at the map of the world, you will see that Australia, for several thousand miles, is surrounded by an area of little, or no Ham activity; this means that, when the longer circuits are out, the bands lie quiet. This is in contrast to areas such as Europe, North Africa, W land and the West Indies, who are surrounded by so much activity that the bands are crowded, day and night with a great variety of calls. A station in the Mediterranean area could easily D.X.C.C. with no QSO over 5,000 miles, probably on 7 Mc. We here in VK have to get most of our stuff over long paths and our signals at the other end have to compete usually with short skip QRM.

My thanks to all those who have taken the effort to send information for this column. My plea is, keep it coming—and more.

Did you hear about the VE8 who, instead of sitting up working DX, would harness up his dogs to the snow sled and travel 25 miles just to kiss his girl good night and then slog the 25 miles back again? It sounds a lot of mush to me.

73, Al, VK4SS.

VK-ZL CONTEST

PHONE: 30th SEPT. and 1st OCT.
C.W.: 7th OCT. and 8th OCT.
1000 hrs. GMT to 1000 hrs. GMT

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK6RU ..	2	256	VK3ATN	26	204
VK5AB ..	45	256	VK6KW ..	4	202
VK6MK ..	43	249	VK4HR ..	12	192
VK4FJ ..	21	221	VK4RW ..	23	184
VK3AHO	51	218	VK3BZ ..	3	176
VK3WL ..	14	211	VK3GB ..	50	171

New Member:

VK2AIA	52	107	VK3AXR	53	110

Amendment:

VK3TG ..	48	115

C.W.

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK3KB ..	10	289	VK4HR ..	8	218
VK3CX ..	26	280	VK6RU ..	18	215
VK4FJ ..	29	264	VK3XU ..	48	213
VK3NC ..	19	246	VK7LZ ..	17	212
VK3FH ..	15	226	VK9XK ..	41	204
VK3BZ ..	6	222	VK3YL ..	39	203

Amendment:

VK3ARX	66	156

OPEN

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK2ACX	6	289	VK4HR ..	7	233
VK6RU ..	8	271	VK3BZ ..	4	231
VK4FJ ..	32	267	VK3WL ..	45	225
VK6MK ..	74	253	VK7LZ ..	23	223
VK3NC ..	77	250	VK3XU ..	61	221
VK3HG ..	3	235	VK3AHO	76	221

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

ROSS HULL CONTEST

Editor "A.R.," Dear Sir,

Although it is rather late to suggest rule changes we wish to support strongly the suggestions made by VK3QV.

Most entrants would agree that if the objects of the Contest are to be realised then its conduct should be such that:—

(a) All entrants compete on an equal basis —no geographical bias.
(b) Scoring is weighted according to the difficulty of the contact.
(c) Scoring and checking is as simple and rapid as is consistent with (a) and (b).
(d) Rules are clearly stated.
(e) Results of the Contest are in a form enabling analysis of v.h.f./u.h.f. propagation conditions.

Without wishing to submit detailed proposals, we make the following comments.

(a) "Cross town" contacts are clearly "out" because their admission favours the heavily populated areas, quite apart from the absurdity of giving points for contacts which require no operating technique or effort. An exception should be made for u.h.f./s.h.f. contacts which should be encouraged.

(b) and (c) Insufficient incentive is provided for u.h.f. activity. Points should be at least doubled for successive higher band contacts in the u.h.f. region. A number of anomalies exist in the present method of 50 Mc. band scoring. Equal scores are awarded for all overseas contacts. This ignores the original handicaps that exist for overseas working. Neither is an allowance made for the differing propagation condition within a State call area. It would be desirable to examine previous Contest results and divide VK land into areas (perhaps cutting across State lines). The scores could then be weighted according to the rarity of the openings between these areas, as in the present system. This would improve the present system without introducing the labour involved in distance scoring.

(d) The '60/61 rules are NOT clearly stated. Example, Rule 5 "Only one contact per band per section each calendar day" should read "Only one contact with the same station per band per section on each calendar day." The bonus system is also ambiguously stated and has been misinterpreted. The flat bonus gives no credit for the rarer call areas and should therefore be modified. Also the final scores do not reflect the effort made by the keener operators since only one point per contact is awarded once the few initial contacts are made with a given call area.

Our final comment concerns the scientific value of these Contests. There must be a considerable amount of useful information on propagation patterns lying dormant in contest logs. We therefore offer, should F.E. and F.C.C. be agreeable, to inspect and analyse the results of the next Contest in order to gleam as much data as possible. Has any such effort been made in the past?

—Paul Edwards, VK7ZAJ.

—John Humble, VK7 Associate (ex-VK0JH).

[Correspondence on this matter is now closed as the F.C.C. have reached a decision which will be published in a later issue of "A.R." —Editor.]

REMEMBRANCE DAY CONTEST

Editor "A.R.," Dear Sir,

It is with regret that I write this letter, but I feel bound to refer your readers to Rule 12 of the Remembrance Day Contest—"A.R.," July '61, page 8.

My remarks, of course, do not apply to all Amateur Operators who participated, but to those selfish and irresponsible few who, in their quest of high scores, (a) purposely and consistently exceeded the modulation capabilities of their equipment, apparently to draw attention to their presence; (b) purposely "squat" on an occupied channel while numbers are being exchanged, apparently to clear the frequency of an irritating weak signal, and then politely call the other station.

The unhappy conclusion to be drawn is that those concerned care little, if anything, for the purpose of the Contest, or for what the general public, who may be listening, think of the Australian Amateur Radio Operator.

If Rule 12 was enforced the number of acceptable logs would be reduced, but at least in years to come the R.D. Contest would be conducted in a right and proper spirit.

Now the point of this citation. I suggest and request that in future Contests of this nature a number of responsible persons monitor the various bands, and where necessary recommend to the Contest Committee the public disqualification of offending operators.

I realise that the wrath of many will descend upon me, but it will be well worth while if my plea has the desired effect, that is, a Contest in Remembrance of Amateurs who paid for our present conditions with their lives, and not a cacophony of worse than mediocre signals such as obtained on August 12 and 13, 1961.

—Morton P. Davis, VK3ANG.

[Other letters received will be published next month.—Editor.]

RADIO AMATEURS IN NATIONAL DEFENCE

(Continued from Page 9)

you would be in a position to know what you were doing from the outset. You would, because of your basic skill, to which C.A.F. training has been added, be of infinitely greater value to the defence of the nation than the man straight from the street. Last, but by no means least, your chances of quick promotion would be immeasurably greater.

VISIT to NO. 21 CITY OF MELB'NE (AUXILIARY) SQUADRON

So that No. 21 Squadron can show you the training which it has to offer and the types of equipment available, a visit to the R.A.A.F. School of Radio at Laverton has been arranged for Radio Amateurs on **Sunday, 8th October, 1961**, from **1 p.m. to 5 p.m.** All Radio Amateurs are cordially invited.

The four other C.A.F. squadrons have a much smaller requirement for radio personnel because of their relatively limited training facilities in this field. However, if you are interested in C.A.F. service, you should contact the Commanding Officer of one of these squadrons or the local R.A.A.F. Recruiting Officer.

Commanding Officers are listed below:—

No. 21 City of Melbourne (Auxiliary) Squadron: Sqn. Ldr. L. M. Bird, 68-0311.
No. 22 City of Sydney (Auxiliary) Squadron: Sqn. Ldr. L. Reading, D.F.C., Windsor 2271.
No. 23 City of Brisbane (Auxiliary) Squadron: Sqn. Ldr. W. N. Nichol, Ipswich 4051.
No. 24 City of Adelaide (Auxiliary) Squadron: Sqn. Ldr. W. C. Keritz, M.B.E., Adelaide LX9.
No. 25 City of Perth (Auxiliary) Squadron: Sqn. Ldr. C. F. Fivash, A.F.C., Perth 74-1271.

V H F

David Tanner, VK3AAU
17 Wolseley Street,
Mont Albert, Vic.

Things seem to be very quiet on the v.h.f. bands at the moment. I can only repeat my comments from last month about the migration to the low frequency bands. The latest one to appear there is Bruce 4BZ, no doubt the purpose of these operations being to arrange skeds and such things with chaps on v.h.f. bands. I will add a word of caution about hooking up on low frequency bands before trying to make contact on v.h.f. It has been noticed in the past that there is a tendency to get bogged down and waste time instead of getting on with the job in hand. This is particularly so if there are a few chaps involved. It might be better if tests were first carried out at the sked times on the actual v.h.f. bands concerned and then, if the tests are unsuccessful, a post-mortem could be carried out on the low frequency band.

I'm glad to see that the subtle reason for my changing the notes to their present form has been appreciated, even by those who it was aimed at. I was beginning to despair that I would have to enlist the aid of our good friend Pansy (friend was the word) to coerce people to read the v.h.f. page. I heard a rumour that the same gentleman was seen befriending a certain v.h.f. type. Surely he is not thinking of invading our domain.

SIX METRES

Continuing on from where we left off last month, it seems that July 8 and thereabouts produced openings all over the place. VK2 worked into VK3, 4, 5, and 7, while VK7 worked VK2, 4 and 5. They had signals for about eight hours from 1100 hrs. Only six VK7 were on though. The sporadic E m.u.f. reached at least 90 Mc. in Hobart, but a search of 2 metres proved negative. The local ambulance network on 85 Mc. reported reception of Newcastle Police and a picture was received from ABN until the local station fired up. On 11th at about 2000 hrs., VK5s were heard in a local morse practice session. The local newspaper gives a report that ABT was received in Port Pirie around this time.

VK6s were also having their share of openings over the same period. On the first occasion, 9th July, VK6RY was heard in South Australia and called to no avail. The following Saturday, Mike VK6ZCX heard VK5s and made contact with VK5ZDR but nothing more. On the following Saturday again, VK6RY heard VKs 5ZCR, 5ZFQ and 5ZFG. The latter was running broken tone and calling CQ with his beam to the north. His signal was peaking to S7. Many watts were wasted trying to break into the contact between the first two, but all to no success. Roy now knows what it is like to call and not be heard.

No other activity has been reported on 50 Mc., which is not surprising if activity in other States is as low as it is in Melbourne. There seems to be a fresh upsurge in sideband activity, VK2AQJ please note. Lance VK3AHL is still active, Michael VK3ZCZ has been heard and both Ivan VK3ASG and Jack VK3ZLQ are both almost there using s.s.b. Yours truly has the mobile sideband rig tamed at last, with about 50 watts peak to a 6146 and a large halo antenna, so watch out in Adelaide in the middle of September as I shall be heading your way.

TWO METRES

Les 2ZBJ (ex-3ZCN) has been working on transistor equipment for 144 Mc. A mod. osc. of all things for a tx and a converter/rx for reception. He has worked 2ZVL using the equipment. Dick 2ZCF has a new mobile converter which leaves a lot of home stations for dead. A 6CW4 nuvistor as a neutralised triode. 6ES8 half as a grounded grid stage, second half as a mixer, 12AT7-6AK5 xtal osc. and multiplier. A very fine converter.

New stations heard north of Sydney include 2ZJT, 2IN, 2ASA, 2ON and 2NI.

Local activity around Melbourne is fairly low at the moment. A look around on last Friday's activity night revealed a marked preference for the fire and t.v. set. Those who were around were rewarded by either hearing or working Ray 3ATN in Birchip, about 180 miles north-west of Melbourne. Ray was first heard working 5ZCR in Mt. Gambier. He later told me that he had worked into Adelaide to 5ZDR. Long distances don't mean anything up there, and a contact of 150 miles or so is regarded as quite normal by most of the gang around the Mallee. 3ATN's frequency, for those interested, is 144.42 Mc. and he is running 100w. of a.m. to a 56 element beam up 120 ft. Ray also hopes to have a sideband rig going soon.

Alan 3AEL at Ascot Vale is making a comeback to two metres with a 522 and eventually the high-powered rig will be stoked up again. Two new stations are 3FY at Bendigo and Merv. 3ZMT at Heidelberg. 3DF at Mentone hopes to have 150w. to a pair of 24Gs. Max 3ALK has a tape recorder now and will be available to record and replay transmissions on two metres.

Nothing to report from VK5 except that 5ZDR and others are still working Herb 3NN at Yanac quite regularly.

The boys in Hobart are hoping to see a new batch of refugees from the low frequency bands soon. 7CT and 7OM have been mentioned. 7JD is back after a short absence. Another New Norfolk station due back on the air is 7AB. A new call at Oatlands, Midway between Hobart and Launceston, is Phillip 7ZBA who will be operating on two metres. In spite of what has been said to the contrary, receivers are getting continual attention to extract the weaker signals. 7ZAO is now using a 6CW4 nuvistor preamplifier which really does what the books say it should, but no distant signals have been provided to check its worth. No doubt 7LZ and company would be pleased to supply some.

The July night event in Sydney was a hidden tx hunt organised by 2ZPJ and 2ZXY. They were hidden in a very inaccessible spot in Duffy's Forest. No one found them, and when the hunt was called off and instructions given on the exact location, most of the hounds still had considerable trouble getting in. The day event, a mobile rally for both h.f. and v.h.f., finishing at Dural, was won by Dick 2ZCF on v.h.f. and Bob 2ASZ on h.f./v.h.f. The day was not as successful as hoped, due to the very bad weather. (Sydney weather no doubt.) The mid-winter contest, open section, was won by Dick 2ZCF, the one-band winner is yet to be decided when all the logs are in.

The VK3 two metre scramble on 9th July was quite successful with 39 stations competing. The country section and outright winner was Dick 3ABK at Geelong, with Eric 3ZL and Rex 3ZKB filling the other two places. In the city section, Alyn at 3ARC was first, followed by John 3ZCB and Frank 3AFW. The fox hunt on the evening of 12th July had Russ 3ZEZ and YL (Dawn) as the fox. A very enjoyable night was had by the three hounds, the winner being Maurie 3MS, with Peter Read second and Tom 3AOG third.

The chaps in Perth had another very good tx hunt on 16th July with some ten or twelve cars taking part. Some of these had no gear, but they either used the clues to go to the tx, or else they followed another car. Lance 6ZBK, ably assisted by Gill 6ZBW, was first in, followed by Charlie 6ZCE with his assistant Mike 6ZCX. Roy 6RY was shortly on the scene also. Rolo 6BO found that his Isis would go cross-country and had to back-track before eventually getting there. They were very pleased to see Jack 6BV and Bob 6RW participating again. Other news is that Brian ex-6ZBJ now has the call 6VV.

It is very pleasing to report that permission has been granted for the West Australian V.h.f. Group to set up their beacon on 144 Mc. They are going ahead with the programme of construction, and it looks as though they will be using a QQE03/12 in the final. Further advice on frequency and times of operation will be given later.

ONE METRE AND ABOVE

Dick 2ZCF has had some enquiries from VK6 for more information on 576 and 1296 Mc. gear, and Eric 2ZDP is trying to get some of the chaps to write some articles for "A.R." Ron 3ZER at Ballarat and Geoff 3AUX at Elsternwick are still keeping skeds each Monday and Friday night at 8 p.m. They have each heard each other, but very weakly, and no QSO has taken place. David 5AW has been carrying out checks with Herb 3NN with pleasing results, though the signals are a bit down on the 144 Mc. sigs, probably due to poorer antennae on 288.

The following is my present supply of distances worked on 144 and 288 Mc. Some of the distances may not be very accurate, so if you have any amendments, don't hesitate to send them along. Some of the call signs listed are not very active these days, but they are included for interest. We would particularly like to see what distances have been worked by some of the newer operators, so if you have anything over 100 miles or so, let's have it.

	144 Mc.	288 Mc.		144 Mc.	288 Mc.
VK3AAU	350m.	250m.	VK5BC	570m.	—
VK3ATN	440m.	—	VK5KK	—	93m.
VK3ATY	345m.	110m.	VK5RO	400m.	110m.
VK3ALZ	340m.	280m.	VK5ZDR	180m.	—
VK3CS	350m.	110m.	VK5ZFG	180m.	—
VK3ZCG	290m.	250m.	VK5ZK	240m.	90m.
VK3ZCW	512m.	—	VK7LZ	570m.	280m.
VK3ZD	390m.	—	VK7PF	480m.	—
VK5AW	480m.	250m.			

Next month I will publish the six metre information, including the number of States worked and the number of DX countries and call areas worked.

V.H.F. GROUP MEETINGS

The July meeting of the VK2 V.h.f. Group was entitled "A Mobile Forum." Jim 2PM was in the chair, with Bob 2OA, Dave 2AWZ, Phill 2ZBX and Dick 2ZCF/2 on the panel. Dick was unable to be in attendance so he provided the other end of a demonstration of two metre mobile work. Bob had his two metre mobile gear at the meeting so Dick was able to hear the discussion at the meeting and then give them his views on the subject. A very successful arrangement.

The VK3 V.h.f. Group meeting was held in the very pleasant surroundings of the Secondary Teachers' College, thanks to John 3AKJ. After the business they were treated to a series of lecturettes on mobile gear by John 3ZFJ, Michael 3ZCZ and Bill 3ARZ. The boys also took the opportunity of saying farewell to Alyn 3ZGA who is being transferred to the West.

The last meeting of the West Australian V.h.f. Group was the annual general meeting and Wally 6ZAA was elected President and Rod 6ZDS as Secretary.

The Hobart July meeting took the form of a demonstration of test equipment and its application to v.h.f. rx alignment. Equipment supplied by 7EJ and 7ZBE included c.r.o., marker generator, etc., and noise generator with associated equipment. Two metre rx's supplied by 7EJ, 7MY, 7ZAK, 7ZAV and 7ZAO were put through their paces and not found lacking.

Have you passed along your two metre frequency to 3ZDE yet? He is compiling a list to enable newcomers to pick a clear spot and also as a means of helping you locate the rare DX. Ray can be contacted at 16 Clinnick St., Reservoir, so drop him a line.

COMING EVENTS

From 5th to 9th Sept. the VK7 Division will stage an exhibit in a Career and Hobbies Exhibition at Hobart. Included will be a display by the V.h.f. Group. 7ZBE's station will be used on 2 mx and we're hoping for plenty of local activity and mobiles around the city.

Peter 3ZDO has asked me to say a word or two about a project which he is trying to organise. The ultimate aim of this project is to accomplish communication between VK3, VK5 and VK6 on 144 and 288 Mc. High power, big beams, c.w., s.s.b., low noise rx's and most of all, persistence with skeds are a must if this is to be accomplished. There are many of us who think that it can, even though it may take a while. If you are interested drop Peter a line and give him some encouragement. It may be possible for one or two of you to get together and pool your equipment as 3CS and I are doing to get a really first-class station going; to me this appears the most practical way. Peter is sending out a questionnaire to all those interested in early October, so see what you can do.

The VK3 V.h.f. Group has finalised the rules and dates for the coming field days. This year it will be competitive, with sections for both single and multiple operator stations, and also home stations. The field days will be held on the third Sunday of each month with the exception of Feb. which will coincide with the National Field Day. The hours of operation are from 11 a.m. until 5 p.m. Operation may be on any v.h.f. band. Crossband operation is permissible but the special points available for 288 Mc. and above are not claimable. For multiple operator stations the original group of call signs are the only ones to be used. (Make up your numbers from the start to be on the safe side.) Connection to public or private mains is not allowed, but the use of portable generators is permissible. The portable station must be more than one mile away from the usual QTH.

There are eight field days to enter in but only your best five scores will be used to pick the winners. The scoring will be 2 points per contact for portable to portable, and 1 point for a portable to home contact. On bands 288 Mc. and above, the score is doubled, except for crossband contacts which will be as for 6 and 2 metres. For the longest distance work-

(Continued on Page 15)

SIDEBAND

Bud Pounsett, VK2AQJ
6 Alice Street,
Queanbeyan, N.S.W.

S.S.B. HAMFEST

No doubt you have already heard of the wonderful success down in Melbourne when the W.I.A. Victorian Division and the Collins Radio Co. got together and organised a demonstration of single sideband equipment. Our reporter, Jim 3JK, covered the event for the Sideband notes. Jim says that Melbourne W.I.A. official circles declare that it was a record attendance at any W.I.A. "do" since the W.I.A. began. The Sideband Convention was held at the South Melbourne Town Hall on 29th July. Executive and Technical Staff from Collins Radio (Aust.) Pty. Ltd. were in attendance and two operating Amateur Stations were in action —one on 20 mx and the other on 40 mx. In addition there were several static pieces of equipment such as a 75S1, 75S2 and a 32RS1, which is a commercial transceiver with four pre-set channels in the 1.5 to 15 Mc. range, single sideband of course. Collins do not make one single piece of a.m. equipment.

At 2 p.m., when the show began, about 120 were present, many more than were expected, and the final figure was in excess of 250 "when counting became difficult". Mr. Alan White, Chield Field Engineer, gave a fine talk on the production of s.s.b. and the construction, function, working and manufacture of mechanical filters. This was an eye-opener to many. Then followed the production of s.s.b. with a 32S1 transmitter and the reception of it with a 75S1 receiver. Next came a colour film with sound on s.s.b. and Collins equipment. This was received by a very attentive audience indeed.

At 3.15 p.m. the practical demonstration commenced and large crowds surrounded the two Amateur Stations. Each Amateur Station consisted of a KWM2 transceiver and a 312B-4 Station Control with a semi-vertical dipole fed with 52 ohm co-axial cable. The 312B-4 Station Control contains a speaker, a directional wattmeter and a phone patch and has been designed for use with the Collins Amateur receivers and transmitters. Plenty of DX was worked on 20 mx while the 40 mx station was used for VK contacts. These took place simultaneously without a trace of interference to each other.

Any Amateur who went away from this demonstration still thinking that s.s.b. is yet in the experimental stage does not want to think otherwise. Victorian Amateurs owe a debt of gratitude to the Collins people for this fine display and while it brought Collins equipment before those who attended, it did something much more. It showed just what s.s.b. equipment can do, how effortless and enjoyable sideband contacts can be, and, in fact, what the a.m. operators are missing.

It is to be hoped that the South Melbourne function will be repeated in other States, overwhelming support is a certainty.

The thinking 1961 Amateur is very interested in Single Sideband.

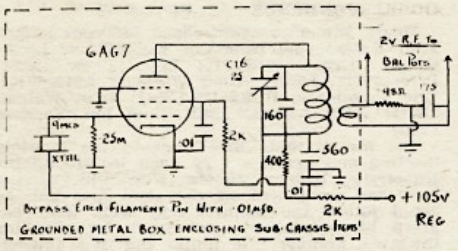
THE 9 MEG. SECTION AT VK2ON
(Fourth Part of Series)

The oscillator circuit shown, using a 6AG7, will make almost any crystal work. The writer tried his hand at grinding an 8.5 meg. crystal up to 9.0 megs. The result was a rather sluggish crystal. The 560 pF. plate coil bypass is the value giving best oscillation. The L/C ratio used is unnecessarily low and a coil with more turns, and about 50 pF. capacity would help when the next re-building is in progress. Nine meg. oscillators can be a bit tricky anyway and low capacity v.h.f. tubes are to be preferred.

An alternative circuit using a 4.6 meg. crystal, doubling in the plate circuit is worth considering. If the v.f.o. covers 4.8 to 5.7 megs., the result is then a happy one for three-band operation. This gives a range 2.05-2.2 megs. to cover the 40 mx band (see previous articles) with much better separation of spurious v.f.o. signals on this band.

When tuning C16, place the r.f. probe on one balance-pot. and set condenser on the gradual decline side of the voltage peak. Oscillation starts more readily this way.

Shielding and by-passing is very important, especially the 0.01 µF. disc ceramics, at the heater pins. Not a whisker of 9 meg. r.f. should

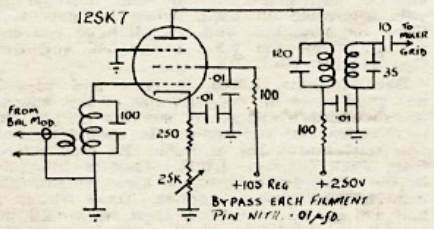


9 Mc. Oscillator.

reach the 9 meg. amplifier except what comes via the balanced modulator. Actually the one sub-chassis metal box encloses both the 9 meg. oscillator and the EF86 first audio, with a metal partition between these. It was not necessary to place the 9 meg. crystal inside the box, and it is above chassis.

Leakage around the bal. mod. may be tested by checking the point of balance of the balance pots at different settings of the 9 meg. gain control. The balance pot settings should be the same at all degrees of 9 meg. amplifier gain. To diminish leakage the oscillator should run at a low power level, just enough to supply 2v. r.f. to each of the balance pots.

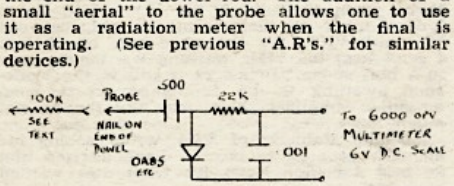
For the 12SK7 9 meg. amplifier stage, 30 meg. i.f.t's. from the RT34 were used, requiring additional capacity. A g.d.o. is useful here to find the required amount for resonance. Full gain in this stage is never required, but the variable control is very useful. The audio gain is advanced as far as possible short of distortion and the 9 meg. gain is decreased in step. The result is a very satisfactory carrier suppression and freedom from carrier "drift". A further gain control at the first linear stage (6AG7 in AB1) ensures that no stage is overloaded and there is correct drive to the final linear on all bands.



9 Mc. Amplifier.

Note again the by-passing of the heater line at the 12SK7 socket with 0.01 µF. disc ceramics. As noted previously, this stage is called on to deliver a peak of 3 volts only to the mixer, so a gain of five times would be sufficient for most purposes. When balancing-out carrier, however, one can turn the gain to maximum.

The r.f. probe is worth its weight in gold and takes about 20 minutes to put together. The four miniature components are arranged and tied near the end of a short length of dowel rod. Where it is wished to measure r.f. without disturbing the tuning of a circuit, a tiny 100K resistor (with twist of copper wire at one end) may be attached to the nail on the end of the dowel rod. The addition of a small "aerial" to the probe allows one to use it as a radiation meter when the final is operating. (See previous "A.R's." for similar devices.)



R.F. Probe.

U.S. CONTACTS ON 20 METRES

In a recent conversation with Bob VE3AYE, the situation on twenty was discussed at length and Bob makes the suggestion that when working U.S. stations from the low end, indicate that you will listen exactly 200 kc. higher in frequency. The method has been adopted by recent DX-peditions and found to be very workable. It enables the State-side operators to switch ranges on their transceivers (KWM1, KWM2, 75S1/32S1 combinations, etc.) and quickly go from listening on, say 14133, to transmitting on 14333 kc. The DX operator can also employ this method if he is lucky enough to own such equipment. I will leave it to your imagination as to what the 14300 odd kc. frequency will sound like if the DX is very rare.

VHF NOTES

(Continued from Page 13)

ed on each band a bonus of 10 points by the contest committee if both stations claim, so keep your distance recorded. Serial numbers with the usual RS and RST reports should be exchanged. For your score to count, the following information must be forwarded to Bill Roper VK3ARZ by the following Saturday.

Your score, together with the longest distance worked and with whom that contact was, as well as your portable location. It is suggested that you carry with you an envelope, stamped and addressed to VK3ARZ, Lot 57, Orchard St., Mount Waverley, so that you may post your score on the way home. These scores will be your only claim in the contest, so it is up to you to ensure that it is there for the final tally.

The winners of each section will receive a trophy for their efforts, details of which will be announced later.

The dates for those without calendars are: Sept. 16, Oct. 15, Nov. 19, Dec. 17, Jan. 21, Feb. (N.F.D. date), Mar. 18 and Apr. 15.—3AAU.

S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

There were only nine letters received this month, apparently all have gone into hibernation for the winter—what, with no DX around! Oh well, if you s.w.l's. want this page to appear every month, pen me a letter, we don't mind as long as it's about radio in some form. I would like to hear from the Groups in VK2, VK6 and VK7 again sometime, just let us know how you are going.

The awards are well under way again, so by the end of the year we will all know what they are about.

Contest—it shall not be long now chaps and it's a beauty. I made a mistake in last month's notes re a proposed newsletter. Forget all about it—reason being it can't be done as simply as we thought. So for the time being, we will content ourselves with this page, but mind you, its success depends upon your activities and how you pen them to me. Mac Hilliard and I hope you all went very close in winning the listener's section of the R.D. Contest.

I've just woken up to why I haven't received many letters; you've all been listening to the Test Cricket to the wee small hours of the morning, eh? I know I've been doing it. But it's been mighty interesting don't you think?

VK NEWSREEL

VK3: The last meeting was held at our temporary building at 262 Queen St., and 20 s.w.l's. heard a very fine, interesting and knowledgable talk on how to build converters from Bill 3ARZ. Judging by the questions and the notes taken down, I think Bill may have started something. I expect to see converters for the h.f. bands in the near future. Bill held us spellbound for over an hour. I have not much technical knowledge and even I could understand it all. Bill, on behalf of the VK3 gang and myself, thanks a lot!

Gee, I almost forgot, last night (4th Aug.) nine of us budding would-be Amateurs (except Mac and I) visited Bill's QTH and saw one of the neatest laid out Amateur shacks we have ever visited. Bill gave us a taste of 2 mx then down to 80 mx. No sigs., then up to 40 mx and made contact with 3AY on s.s.b. A pleasant evening was had by all. so once again Bill, many thanks for your interest in the Group.

Next month I will inform you all of your new VK3 office-bearers who will further your s.w.l. interests for the next 12 months. I won't be standing for office at all in the Group due to unforseen circumstances. I will, however, carry on with the notes for a short while yet. I think your next scribe will be Mac Hilliard and I want you all to help him as you have helped me. I'll still be in the background to assist as much as possible.

VK5: Seven of the local s.w.l's. in Mt. Gambier (at the time of writing) are going camping for the R.D. Contest, so they are tuning up their rx's. Colin found that a 6U7 i.f. amp. gave up the ghost in his 7-valve rx. On replacing it, the rx burst into life on 80, 40 and 20 mx, but nothing heard on 10 or 15 (your not alone in that Colin). Al Rechner, 5ZCR, is now back in Adelaide and they are trying to get assistance from one of the local Amateurs. They were very pleased to have Al's help and thank him very much for the improvement of their radio knowledge. The boys hope to do their A.O.C.P. in October.

Garry L5026 has just completed an Amateur band tuner which will feed into his 7-valver which at the moment is being re-built to accommodate the tuner on the same front panel. Trevor took some photos of the group, but the flash light was not working 100 per cent so the photos were no good, but soon we hope to have one for this page. Colin has fitted an Eddystone dial to his rx; it has a 10 : 1 ratio drive and a nice calibrated dial it is. Colin received a letter from Len Cook in Darwin and he hopes to get a Command rx soon. How are you, Len? How's listening?

That's all for the VK newsreel and as I said last month, I hope to hear from you other groups in the coming months.

CORRESPONDENCE

Thank you once again chaps for your letters. They have come from Col Hutchesson, L5031; Chas. Aberneathy, L2211; Peter Drew, L6021; Peter Field, L5039; Afton Westcott, L2136/VK4; Eric Trebilcock, BERS-195/L3042; John Walker, L2214; Dave Jenkin, L3039; and Ian Thomas, L3065.

The Master first. Eric went to the monthly meeting and heard a very good lecture on the University balloon efforts. The Uni. physics boys had equipment on view and Eric said he could follow the lecture very well. Eric has given his opinion re our quest for changing the s.w.l. number. He thinks that it is important that the call sign be as brief as possible. Therefore, he thinks that in his own case VK3-042 would fill the bill. It could be prefixed in line above by "short wave listener" or s.w.l. or it need not be. Could be some indication somewhere on the card re s.w.l.

Well Eric, I agree to a point. I, like many others, think VK3-L55 is much better. VK is the country, 3 the State, L for listener, and 55 the person's number. The other way could mean VK country and 3,042 listeners, which is wrong for sure. So we are submitting VK3-L55. Advice re the acceptability of this change in number will be mentioned in this page as soon as it is approved.

Eric has had 99 countries confirmed this year to date and has had 362 cards from 34 zones; last month's best cards were FQ8HP, MP4QAR and UA2AC. The FQ8 was a new country for him. He has heard 17 ships this year, but only four QSLs. Not much listening done since last writing and what he has done has been on 3.5 Mc. However, other than VK and ZL, nothing heard. Seems to be more and more VK stations coming down to 80 mx and you're quite right, Eric, 14 and 7 Mc. are not good at all after dark, but sometimes 14 does open to W land around 2200 E.A.S.T.

Letter from Ian Thomas, L3065. He talks of his doings on the v.h.f. bands now that he has his Z call, is having bugs, etc., ironed out and has been given a lot of help, however he's still interested in s.w.l. when he gets time. Good for you, Ian, and we all hope you soon get going on the v.h.f. bands OK and work that elusive v.h.f. DX.

Dave Jenkins, L3039, is next and says he has good news for me. He has at last counted his countries heard score (see the ladder), but is not clear on the zones. He should be now, I've sent him a list of them. He had a letter from Jack Clayton, L3015. Jack is interested in the three-dipole antenna arrangement, plus transistorised power supplies. Dave wishes he had a.c. on up at Orbost, then he would buy a AR7 or H.R.O. as he is more interested in operating than building, although he admits that one gets a kick out of building something on a few occasions and seeing them work well. By the way, he says Jack Clayton is using an Astor all-wave six battery set covering 80, 40 and 20 mx. Has had two quad antennae for 20 mx, but they both blew down in gales, hence the interest in dipoles—less wind resistance.

John Walker, L2214. He's just received his s.w.l. number and is quite thrilled. John boards at the Armidale School and he reports that for the last fortnight 40 mx has been very erratic at times; he's going to do more listening on 80 mx, though the Ws are very strong on 20 mx at times. His best DX was XE1JT. John reckons that the VK4 fellows must have very good beams, he can't hear a peep out of them when they work the Ws. Well, John, I don't think it's their beams, it's skip between VK4 and VK2. It's the same here on 20 mx, I can't hear the VK2s working Ws, maybe once in a blue moon. John's rx is still in the workshop awaiting to be re-aligned; apart from a guitar amplifier he's making, there's not much news.

Malcolm Hannah, of VK4, wrote asking me about a good rx to buy. I have advised him as best I could. Hope it's what you wanted Malcolm.

Peter Field, L5039, never stops listening, this lad; he and Peter Drew are the best two DX hounds at the moment—they sure log plenty. Peter hopes to add another rx to his collection soon for use on the v.h.f. bands with converters feeding into 3.5 Mc. He says "I've just got going on 288 Mc. and have heard absolutely nothing, except car ignition and noise, hi. It does work though, well at least it lines up with the g.d.o." What about your antenna Peter, how and what is it? Peter also makes mention of two new listeners in Elizabeth, L5042 and L5044; former uses a AR8 rx and the latter a 5-tube converted b.c. rx. All the best to you both.

Howard Harvey, L5034/5ZBE. Howard's acticity is at zero potential. At the moment he is using an old 1945 5-valve superhet, but not as selective or sensitive as he would want it to be on 20 or 40 mx and it doesn't work on 15. It now leaves him 1 mx to work on and he works it now that he has his call sign. He's changed the antenna system on 1 mx and is now using two 11 element beams, one wavelength spaced. At the moment Howard has a new h.f. rx on the drawing board. It will be about 13 valves dual or even triple conversion on 7, 14, 21 and 28 Mc. It will be a crystal locked 4-valve converter feeding an 11-valve 3.4 Mc. rx. More details next month.

Poor old Chas. Aberneathy, L2211, the cold weather has him down; his listening time is limited to Sunday afternoons. The reasons being he's getting older, weather colder, and the one-eyed monster—shame on you, Sir Charles, fancy letting little things like that get you down. It must be hard for you not to brave the cold in the shack. Look at all the DX you are missing.

Peter Drew, L6021—the last for this month. At last he's heard his first W on 80 mx. It was K4RID and he heard him on the 8th and 9th July at 1030 and 0930 GMT, he was 4 x 4 on s.s.b. Peter was using a 3-tube regen. rx and a piece of wire 15 ft. lying on the floor. The reason for the short antenna was to cut out the QRN. Of course it cut out a lot of signal. Also on the 8/7/61 he heard on 80 mx PZ1AX who was 2 x 2 on s.s.b.

The most startling DX was on 20 mx s.s.b. which was absolutely flat and out of the blue popped YS1MS who was 5 x 9, also PZ1AX (where have I heard that before?), YJ1ZA and HZ1AB. Peter has found 20 mx much the same as we have over here, poor, occasional European, some Ws and VEs. Much of the DX is on s.s.b., which gets through much better than a.m. even with his queer method of dissolving it.

This boy has been reading a book and I pass it on to all you other lovers of DX. In "CQ" recently, they printed some prediction data. The next minima will be in May 1965 and the next maxima in 1969 or 70 when conditions will be much about the same as now. Conditions will not be like the 1958 feats until about 2050 (I won't be worried about it then, for sure!). Gee that's grim chaps, I hope they are wrong. Yes, Peter, it sure was a feast on 10, 15 and 20 mx back in '58.

Nearly forgot Afton Westcott, L2136/VK4. He has another country confirmed HB1KU/FL which brings him up to 71 confirmed. Man, you sure have gone ahead in leaps and bounds in the last three months. I hope it continues for you. Don't apologise for sending a lousy report Afton, we know the bands are in a bad mood and won't let us hear any DX; just keep listening, they will come good.

DX LADDER

	Countries Conf.	Hrd.	Zns. Conf.	S.s.b. Conf.	S.s.b. Hrd.	No. Cds.
E. Trebilcock	270	277	40			6948
A. Westcott	71	157	30	31	92	
M. Hilliard	61	196	25			157
M. Cox	32	199	19	3	66	93
C. Aberneathy	26	55	20			78
I. Thomas	17	136	13			36
T. Heywood	16	90	11			21
P. Drew	17	162	14			36
P. Field	13	118	9			
N. Harrison	11					142
D. Jenkin	10	137	7			
R. Wood	3	3	3			3
R. Thompson	2	73	2			2
D. Allen	2	18				5
T. Mills	2	14	2			2
J. Walker	1	8				1

Well my friends, there's the DX ladder again, quite a few alterations this month. Don't forget now about letting me know of your additions. I must repeat—if no alterations, then I must omit you from the ladder until advised of new figures. I hope you all will abide by this rule. Also, if any of you have any suggestions re what you would like to read in this page, just write me a letter. And I would like to hear from the other VK s.w.l. groups re their activities.

So that's all for this month. The very best of DX, 73, Maurie L3055.

NOTES

NEW SOUTH WALES

GENERAL MEETING

An excellent attendance occurred at the July general meeting under the chairmanship of the President, Bill 2YB. The lecture for the evening was by Paul Free, of Standard Telephones and Cables Ltd., his subject being "Silicon Rectifiers in Power Supplies." Those present were well briefed on the use of these more recent developments which will no doubt result in their use in preference to the tubes which have been with us so long.

An important item of general business was the ratification, by the meeting, of the Council's recommendation to proceed with the building of extensions to Divisional headquarters at Crow's Nest. Building will commence shortly and should be completed early in the coming New Year.

TAPE SERVICE

Of the many functions of this Division, possibly one of the most important is the service we render to country clubs and individual groups in that we record lectures so that they in more remote parts of the State may hear the lectures which are given at our monthly meetings. This service has proved very popular since its inception and has been patronised by many of the clubs in N.S.W.

The following tapes are immediately available for your use: Transistors by 2AAH, V.h.f. Omni-Range by Paul Griffin, S.s.b. by 2AC, Master Oscillators by 2JR, T.v.i. Suppression by 2FA, H.f. Direction Finding by 2JR, and S.s.b. (Part Two) by 2AC, with a number of others to follow on various subjects of interest.

Members are invited to contact the Education Officer, Harold 2AAH on this matter and arrange a tape lecture for your next meeting. There is no charge for this service, only the return postage for the tape. Slides and/or drawings accompany these lectures.

COMBINED OPERATION—DURAL

Many hardy souls ventured forth on the wettest Sunday for month in the direction of Dural for the combined operation of the W.I.A. (N.S.W. Div.) and the 1st Divisional Signals Regiment. The day commenced with a mobile rally, all cars converging on Dural by the end of the morning.

A unit of the 1st Divisional Signals under the command of Capt. A. Ballentine was in attendance at Dural, and despite the weather demonstrated some of the equipment in use by the Armed Forces at the present time.

Results of the mobile rally are: low frequency mobile, 2AAH and 2AMA, a dead heat.

COUNCIL MEETINGS

Your Divisional Council has been extremely busy this last many months with the administrative functions of the Division. It will be realised that the duties are heavy indeed, more especially since the great increase in membership over the past few years. The result is more and longer meetings for those seven members of Council.

As members of an association which is progressing at a fantastic rate, let us take stock of our activities, and really see whether we as individuals cannot spare a few hours weekly, not only for our own benefit, but for the good of our fellow Amateurs. We are fortunate in having many willing helpers in our many activities, but believe me there is plenty of room for more of you. Just a word to any of the officers of the Division will fix it. You'll be welcome with open arms.

Council has met in July on three occasions and has attended to all current matters.

SILENT KEY

It is with deep regret that we record the passing of:—

VK2AKR—John A. Lindsay.
VK3QK—E. H. Jenkins.
VK4KL—Ivo Johnson.

JAMBOREE-ON-THE-AIR

In conjunction with the Boy Scouts' Association this Division is taking its part in the Fourth Annual Jamboree-on-the-Air. It will be recalled that in previous years other Divisions of the Institute have played their part in this event which has done much to cement goodwill among Scouting Members in other States and throughout the world.

The Jamboree this year will be held on Saturday, 21st Oct., and Sunday, 22nd Oct., from 0001 GMT to 2359 GMT.

Located in Ottawa will be a station operated by the Boy Scouts' International Bureau under the call VE3JAM which will operate on 28490, 21195, 14195, 7210 and 3750 kc. for the duration of the Jamboree. This station will issue a special QSL card for all contacts.

Members are requested to contact their local Scout Groups and with them make contact with the many Scouts who will be happy to speak with their fellows at home and abroad.

SECONDARY SCHOOLS RADIO CLUB

A number of Radio Clubs have been formed at various schools to enable some of the younger generation to receive some instruction in the rudiments of Radio, and which will no doubt encourage them to join our ranks in the future. Such clubs are already in operation in Canberra, Bass Hill, Booragul and Kingsgrove, with others to follow, and consultations have been made by Harold 2AAH, Max 2MP, Rex 2YA and other on this matter. With the assistance of this Division it appears that approaches may be made to other schools in the State and also to youth clubs and similar organisations. Those of our members who may be able to give assistance to this scheme are requested to contact any of the gentlemen mentioned above.

HUNTER BRANCH

A complete ban on the use of sidecutters was in force during the July meeting of the Branch. The cause of all this was the visit of Vol 2VO to our monthly meeting to deliver his lecture "Wrecking Disposals Gear." Vol gave a most interesting lecture and the largest gathering of members and associates seen for some years, yes I said years, was there to hear him. Just in case you don't believe me, I've checked with the attendance book and I notice that the only time, excluding Annual Dinners, was 14th Feb., '52, when 63 were present. At the moment, Mr. Mullen, of budgerigar fame, has my bound copy of "A.R." for '52, so I cannot say what the meeting was all about. Suffice to say that 9½ years later there was a rollup of 41 to hear Vol.

What with the Trade Fair and all things have been pretty hectic this month and the man from the swamp, 2ZL you know, took three days off to visit Sydney and look around. Bill's still having trouble with S9 noise level and the boys from Nesca did a quick job out there the other day putting a new insulator on the power line. All was well until some north-of-the-border mist came along and now we're back to taws. Of course, the battery charger radiates a good signal too, Bill, and after all that twisted string goes very near it. Anyone got some coax?

Have you been to Toronto lately? Low flying aircraft beware of Jim 2AHT. An addition to the farm is the 15 mx beam atop the big mast. Jim says sigs are fine and the local spies report that DX for Jim is commonplace these days. One of these days I might get the other mast up at this QTH. The small one was raised into position the other day to the cheers of the locals. It remains to be seen what will happen when the other one is erected and a wire swung between them. Even 2AWX may hear me.

Another lakeside Amateur who deserves praise for a job well done is Harry 2AFA. He is now proudly displaying the Australian D.X.C.C. on the shack wall. I might mention that Harry's 20 mx antenna is a flip-flop beam, but it must work well. Of course, although he denies it, Harry's not a bad lad on the key and I'm sure that here is where the secret of his success lies. Another Amateur with a mighty antenna is Les 2RJ. It is said that now it has been raised to above the level of the fence. Whether or not this is true, I'll leave you to judge, but the signal has improved so those broom handles must have done some good.

There are some, of course, who hide their aerials to foil the kind viewers. A resident of Westy named Bob has been doing this for years but at last his sins have found him out. Not that he wouldn't have got away with it for ever but he has to go and spoil it all by going on 80 mx. Now, I ask you, how is it possible to hide an 80 mx dipole behind the garage? Mummy, I just saw Mr. Rose on our t.v. He was just standing there in the middle of Six O'clock Rock. But he wasn't dancing Mummy, he was talking about some game with three balls on a green table. Exit to the tune, "They Wouldn't Believe Me." There's something else I can't believe. Our well known v.h.f. man, Stan 2AYL, has a problem so they say. His son has a car and Stan is said to be going mobile with this vehicle. It is not said if on 2 or not, but I'll believe it when I hear him. The problem, by the way, is who buys the petrol!

Varley 2SF is preparing for his forthcoming lecture to the branch by making pretty patterns on a c.r.o. There is a wobbulator too, in this setup and much midnight oil is being burned, say the spies. Whatever is afoot I cannot say, but a visit to the October meeting will reveal all.

Several new members have been recruited, and three that I know of are Norm Mortimer, Nev Woods and Allen Vitnell. Norm is from Newcastle while the other chaps are from the coal city and were introduced to Amateur Radio by Chris 2PZ. Chris dusted down the posthole digger the other day and erected yet another mast in the back yard. It's proposed to support a full wave on 40 with this to favour the Sydney path and 80 mx working is also contemplated. A really big signal is promised in the future. The pi-coupler is to be scrapped and a new aerial coupler will get more r.f. into the high wire.

Bill 2XT also has a signal on 80 and each other band through to 2 mx. The Thunderbird works very well and pulls in the DX consistently. Bill must have been doing some persuading too, because Bob 2AQR also mutters something about 2 mx. Can it be true? Harold 2AHA has at last been heard on 40. He came back to 2AWX the other Monday with phase modulation. From all reports the signal is f.b. and it's really good to hear you back on Harold. Although Harold has no trouble with phases, there is one local member who does. This man, who prefers to remain anonymous, placed his nice new Japanese multimeter across the 240 while it was set on the millimap. range. Of course the meter didn't like it very much and showed its disapproval by bending its needle all out of shape. Result, more trade for Japanese meter repairers. He has a certificate though, numbered 1096 and headed P.M.G., so he'll be all right.

Our worthy president 2AYF is just about ready to put a signal on the band. He has apparently settled all his differences with the electrical fitters and wirers and the new shack progresses at a great rate. So watch out all you Bar Beach fans and hang on to the gain control lest you are unprepared when the big signal hits the air.

There often is mention of "G.E. Ham News" and articles extracted therefrom. Gordon tells me that it is possible to get a bound volume of these useful magazines by writing to Mr. Hannom, A.G.E., 167 Kent St., Sydney. I cannot tell you the price, but should you be interested, Mr. Hannom or Gordon can give you the details.

The big event this month of course is the Annual Dinner and Field Day. The Dinner this year is to be at the Esplanade Hotel on Saturday night, 30th Sept., at 7.30, while the Field Day is being held at the usual place, Blackalls Park on the next day, Sunday, 1st October, beginning at 10 a.m. A really first class programme has been organised and you

W.I.A. N.S.W. DIVISION
HUNTER BRANCH

TENTH ANNUAL

CONVENTION

will be held on

SATURDAY, 30th SEPT.

and

SUNDAY, 1st OCT., 1961

ANNUAL DINNER
at the Esplanade Hotel, Newcastle, 7.30 p.m., Saturday, 30th Sept.

FIELD DAY
at Blackalls Park, Lake Macquarie 10 a.m. on Sunday, 1st Oct.

Full details will appear in the September Bulletin.

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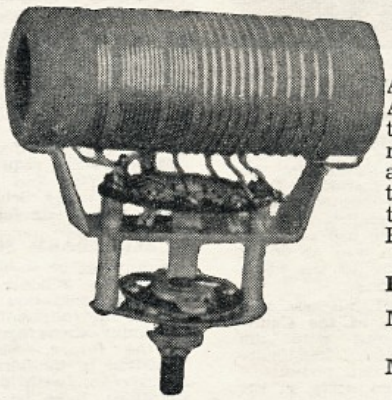

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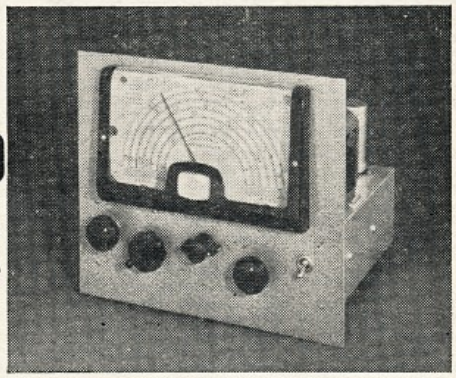

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cannot afford to miss this event. The total outlay is 25/- for both functions, but should you not wish to attend the field day the cost for the dinner is £1. If the Field Day only attracts then Gordon is going to ask you for 10/-. So why not be in it and lash out with 25/- for the two. You'll not be sorry. All the details will appear in this month's Bulletin and anybody who can't find their way then will have to ask a policeman.

Our old pal Ben 2ABT has been up to something odd so it seems and has managed to break his leg. This will never do Ben, you'll have to get better for the Convention. All the chaps wish you a speedy recovery. Also on the sick list this month is Max McLachlan. Hope you are soon 100 per cent. again Max. The only other sick man I can think of is Lionel 2CS. He's sick of seeing 27 Mc. radio control gear that won't do as it's told. Apparently the rx plays strange tricks. If your rx plays strange tricks too, then you'd better bring yourself along to the next meeting. Keith Jeffcoat, 2BK, will be there with two rx's, one modified and one unmodified, CR100. He proposes to tell you how to get the most out of **your** rx. So come along and hear how it's done. That includes you Shannon! For those who don't know, we hold our meetings on the second Friday of each month at the University of N.S.W., Tighes Hill. This month the date is the 8th, so drag yourself away from the one-eyed monster and put in an appearance at 8 p.m. See you, 73, 2AKX.

SOUTH WESTERN ZONE

The South Western Zone, N.S.W. Division, held a meeting at Wagga on Sunday, 23rd July, to determine where they would hold their 9th Annual Convention. The meeting was well attended, there being 17 members and four associates present. The boys from Tumbarumba put forward the suggestion that they be given the opportunity of holding the Convention at Tumbarumba this year and this was supported by all present. The dates for this important event are the 30th September and 1st October, 1961. A warm welcome is extended to all Amateurs who wish to attend. For further information, seek the Notice in this issue.

During the meeting, the Zone Officer, Jim 2AJO, tendered his resignation from that post. Jim has given nine years' service to this Zone and his resignation, for personal reasons, was accepted with regret and many thanks for all he has done for this Zone and Amateurs in general. A new Zone Officer was appointed, Bill 2AHV, who, after election, assured the meeting that he would do all he could to fulfill the confidence the meeting had shown in electing him to this position.

The meeting closed when afternoon tea was kindly served by a number of XYLs.

THE BLUE MOUNTAINS SECTION

The July meeting was held as usual at Lawson and ten members were present. As the President was not able to be with us, Bob 2ASZ was "in the hot seat". There was no lecture set down for the evening, but a lengthy discussion on 2 mx portable occupied most of the evening. Wal 2MZ gave us all the facts and figures and is working on the project so that we may assist in communications with the Bush Fire Brigade, etc. Some very good ideas were discussed and it looks like we will get many takers. There being little business, the meeting closed and a hot supper was enjoyed by all, followed by the usual ragchew. Some forty odd 6060 type tubes were made available by yours truly's salt mines and duly sold like hot cakes for the benefit of the club. The 6060 is identical to a 12AT7, so may have some more in the future.

The Club had its first get-together for some while, using two bands—80 and 2 mx. Everything seemed to go OK so keep it up fellows. Remember second Friday night, 80 and 2 mx, at 2000 hrs.

My spies tell me that Sid 2AVK and Stan 3AFL, who were visiting Sid, dropped down to Lawson for the meeting the Friday before. Well Sid, that is a new excuse to be clear of the house. Al 2ZFB and Bob 2ASZ called in on yours truly but we were well on our way to The Entrance. Sorry fellows, called on 40 mx mobile all the way to St. Mary's, so thanks Don 2ART, for entertaining my visitors. Anyway a nice week-end was had by all. Called in on Bob 2IN, who, incidentally, is on 2 mx, so turn your beams N.E. for Bob most nights at 2000 hrs. Also called in on Trevor 2TM at Woy Woy and had a very enjoyable afternoon. Trevor will be moving QTH to Glenbrook very soon. Another one to the clan.

Coming Events.—Lawson Field Day in October. Date to be determined at the August meeting. Full particulars next monthly Bulletin.

Scout Jamboree-of-the-Air. Several Scouting groups on the lower Blue Mountains, Camden and The Oaks have been organised, the dates being 21st and 22nd October, so keep this in mind.—73, 2ADA.

VK-ZL CONTEST

PHONE: 30th SEPT. and 1st OCT.

C.W.: 7th OCT. and 8th OCT.

1000 hrs. GMT to 1000 hrs. GMT

BOORAGUL HIGH SCHOOL RADIO CLUB

A meeting of the School's Ladies' Auxiliary donated £10 to the club funds. This was received with much pleasure by members and it will go towards the purchase of a Geloso v.f.o. Our new modulator is nearly ready to go, but we are having trouble with an oscillating 6N7. Ian changed some of the coupling capacitors in an effort to overcome the trouble and while doing so nearly changed himself to dust by finding a live wire with his finger. Unfortunately one of our crystals, 7125, turned against us and went on the blink. We are unhappy about this but perhaps all will be well when the v.f.o. arrives. During Education Week we are having an open day. Among the displayed items will be a radio control tx built by Les Winters together with a matching rx constructed by Ian Forrest. 73, Bruce for 2ATZ.

CHRISTIAN BROTHERS' COLLEGE RADIO CLUB—VK2ATQ

Great progress is being made in the way of equipment, but operation on the air is still restricted to the few very keen members. With a good deal of assistance, we hope to be working s.s.b. after the holidays, and hope to have an occasional period off school-work to let the whole class talk over its problems with any DXers who'd like a yarn.

The new G5RV flat-top is working out well on 40 and 20 mx. We made it to the exact specifications given in "A.R." early this year, and it's a big improvement on the previous dipoles.

1,000 new QSLs are practically ready, and will be circulating by the time this is printed, so give us a call if you'd like one—20 or 40 mx most week days about 1245 E.S.T.

John (harmonic of 2LX) received a call from his uncle, 2MJ, and had quite a discussion of family affairs; hope it'll turn into a regular sked. A powerful mobile s.s.b. signal from Reg 2AI was often heard during the month. DX worked was nil!

An AV25 demonstration triode was set up for a week to help explain and show the working of valves.

A few contacts were made in the R.D. Contest, and log submitted. That's about the lot for now, so best 73 and good DX.

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VICTORIA

VK3 Council has decided to change some of the membership fees of the W.I.A. It has decided to drop completely the entrance fee. Members will continue to pay £3/3/- p.a., associate members £2/15/- p.a.; however, persons under the age of 18 or full-time bona fide students not in receipt of a regular income, under 25 years, can be full members for a fee of £2/2/- p.a. or associate for £1 p.a.

Country members continue to pay £2/15/- p.a. for full membership and £2/10/- p.a. for associate. These fees are retrospective to 1st August for new members. Old members, this new scale comes into effect on 1/3/62. A "country member" now resides **outside** a radius of 25 miles of the Melbourne G.P.O.

ATTENTION VK3 MEMBERS

The VK3 Inwards QSL Manager requests that the undermentioned members take delivery of QSL cards intended for them, either by calling at 340 Gillies Street, Thornbury, in person or sending Eric a s.a.e. Those concerned have cards on hand dating back to at least 1959 and in some cases to 1955. Thanks to those members who have responded to the 3WI broadcast for stamped envelopes. The calls concerned are: VKs 3AB, 3AN, 3BQ, 3GA, 3GV, 3ID, 3JE, 3LQ, 3MS, 3NH, 3NJ, 3RP, 3SO, 3UK, 3WM, 3WR, 3WY, 3XU, 3ZJ.

Keep those stamped addressed envelopes rolling in chaps.

WESTERN ZONE

We welcome a newcomer to our Zone. He is Norman Blake, VK3ZLU, at Hopetoun, who after getting rid of some troublesome bugs in his tx is now active on 6 mx. His near neighbours, George 3ZEA of Rainbow, Herb 3NN of Yanac, and Max 3ZCW of Ouyen, have assisted to keep the airwaves busy in that area.

Keith 3QG of Murtoa has also caught the v.h.f. bug too and has a three element yagi on a 40 ft. tower in readiness for a crossband contact. So far conditions have been against any attempt to make a QSO, but they should succeed very soon.

Norman is especially pleased in that he has also passed the exam for Broadcast Operator's Certificate of Proficiency. He is making the best of his opportunity to obtain further QSOs as he is due to leave for Missionary service overseas toward the end of this year.

We expect to have quite a few stations active on the air for the Jamboree-on-the-Air weekend, so expect a nice lot of contacts.—3AKW.

NORTH EASTERN ZONE

This Zone held the first Zone hook-up for many moons on Friday night, 21st July on 3.7 Mc. It was very pleasing to all concerned when the following stations reported in: Ken 3KR, Peter 3APF, Frank 3ZU, Vern 3AXW, and Arthur 3AUL. Apologies were received from Bob 3UW a couple of nights previously, owing to a prior engagement at the Albury Radio Club.

Various suggestions were made and discussed, several of which could not be finalised as they were of such a nature that it was felt that more members of the Zone should be given the opportunity to voice their opinions on the various points raised.

Everyone on the hook-up were in agreement as to the night, time and frequency for future get togethers, which will remain as every Friday night at 2000 hrs. on 3.7 Mc., so chaps make a note of the time and frequency and of course remember the night—each Friday.

Peter 3APF and friend have been "busily flattening batteries or something, chasing around the countryside modulating lights? There seems to be more in this than meets the eye. Methinks, however, we shall be watching progress with interest. Peter and mate might be on to something. Frank 3ZU still busily engaged on the sideband rig and other gadgets and says he has three more prospective Hams over there in Yarrawonga

W.I.A. N.S.W. DIVISION

SOUTH WESTERN ZONE

NINTH ANNUAL

CONVENTION

at **TUMBARUMBA**

30th SEPT.-1st OCT., 1961

The usual field events will be held and a good time is assured.

For all inquiries and required accommodation, contact W. Coombs, VK2AWC, P.O. Box 61, Tumbarumba, N.S.W.

going for the Z call in the near future; good luck to you chaps, but what about the full ticket?

Ken 3KR is really doing things in style these days. Goes to the pictures on Friday nights!! and takes along a smoke signal rig, talks to the boys and watches the flicks at the same time. He reckons it may be the answer to t.v.i. problems too! Anyway an f.b. signal comes from the picture show at Benalla. Would like to know what you use as an antenna though Ken, maybe shoot it through the projector.

Another one to do things in style is Vern 3AXW, of go-cart fame, believe it or not, he's persuaded the XYL to let him operate the rig from the kitchen while she does the cooking of cakes, etc.; can't see this going on for long though, as every time it is passed over to Vern he has just started or just finished another piece of cream cake. Things pretty quiet up Smoko way, maybe due to the snow and temperatures around the 19 degrees mark. Who said it was cold in the Antarctica? A ten element yagi on 144 megs. is ready to go up and the 522 is working OK, so it won't be long now before we find out if it is possible to get a 144 meg. signal out of the bottom of a valley and over the hills and far away.

That's about all for this time chaps, don't forget to look us up some Friday night and let the boys know what you are doing or planning to do. 73, 3AUL.

MIDLAND ZONE

A gentle reminder regarding the 80 mx hook-up appears to be the first item. Following appearance of these Zone Notes last month with the details of the hook-up on 80 on the first Thursday of every month, a good attendance was registered, but unfortunately it resembled an s.w.l. night as almost everyone listened, heard no call, and gave up. If someone had had the courage to transmit, there would have been a hook-up and 3AHA would not have built his fire in vain. Full of enthusiasm, he stoked his fire and tx in that order, but was rewarded with warmth and little else, because his signals were unheard in Maldon, Bendigo and Kangaroo Flat. Be not dismayed OM, better things are in store and someone will speak next month. Even if my XYL does come to the back door hurling abuse because Channels 2, 7 and 9 are no longer viewable. At least the beat pattern doesn't have any snow on it, which is more than you can say for the picture.

Two mx activity in the Zone continues unabated with 3JW calling most evenings around 7 p.m. He has a good signal out, but has difficulty in receiving weak Melbourne stations. From all reports the rx's in Melbourne are good, but tx's are underpowered, being mostly 522s. More power out from the city will help the country boys and do a lot to encourage activity in the bush. After all, it is useless to build good converters and tx's if those distant stations won't do likewise.

3FY finally put power into the aerial from a 522, but with the original oscillator, also put power into three t.v. Channels. Alteration of the oscillator to a 3rd overtone cured this trouble and harmony once more prevailed in the home. A minor detail such as the wrong crystal putting out a signal at 148 made the first contact somewhat difficult for 3JW to find.

3FO has plans to go mobile on 6 and 2 mx. Details are not available yet, but all Col needs to do is travel about 2 miles from home to the top of Mt. Tarrengower and signals should spread all over the State. The Mount will be the site for a Zone Get-together on Sunday, 24th Sept., so forewarned should be forearmed. At the moment plans are that it will be a free for all, with mobile rigs, ear bashing and any form of activity to pass a pleasant afternoon. If the weather holds, it may be a good idea to take the XYL, YL, and/or harmonics along for the ride, but everyone knows their own family best. Listen to the hook-up for precise details but don't forget the date.

After the first meeting of the Zone last month, 3BM took home a 2 mx converter for trial purposes, but to date we haven't heard whether Bruce has heard. Perhaps he is busy converting the signal from an HT37 to 144 Mc. so that s.s.b. can come from Quambatook. If so, it will be a race between 3BM and 3ACN because Neville's last words on the subject were the product of 2 mx sideband from his HT32.

MOORABBIN AND DISTRICT RADIO CLUB

The month has gone around all too soon and happenings are a little slow, but nevertheless here are some items of interest.

At our August meeting, Kel 3ZFQ gave us a very interesting lecture on "Crystal Filters". At our Sept. meeting our film librarian Laurie 3CN has selected some very nice color films for our viewing. A group of members are attending the W.I.A. Dinner en masse and also intend going along to the Ferny Creek Convention, making a picnic day of it. At the Dinner we are hoping to be presented with the Perpetual Trophy won by the Club at the last National Field Day.

As to personal bits, both George 3NQ and Bill 3JE are in the throes of the initial stages of getting going on s.s.b. The October lecture, by Lex 3AIL on s.s.b. should be of especial interest to them as to Bob 3NZ. Alf 3LC, having heard the call for help put over the W.I.A. news, has signified his intention of co-operating with the Malvern Troop Scouts in the Jamboree-on-the-Air in October. Peter 3XK is also participating and we hope many more members will be helping in this worthy cause. The club station should be ready for this event. Other than this our 80 mx tx hunts are still very popular and things are going along very smoothly, new members joining up every month.

In the Hamad section of this month's issue you will note that we wish to sell an AT5-AR8. This combination has been laying in storage for several years now and as we have several other projects on hand we thought it a good idea to dispose of it and get the necessary finance for these projects. It is as original and has not been tampered with or modified, so should be a very good buy for anybody needing an outfit of this nature. We would like to obtain a Type 3 Mk. 2 in good condition. 73, 3LC.

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QUEENSLAND

Well, how did you like our freeze this year? Few early morning operators failed to tell how cold it was in their locality. Just as well we have so much of that beautiful warm sun. By the time you read this, winter should be well behind us and you'll be wondering where to try out the mobile. A trip away to the coast or country with the family is a good excuse. I anticipate quite a few new mobiles this year; let us tear ourselves away from 5 watts and 5,000 miles.

Jack 4JF's QTH was the place of our July Council meeting and Jim 4PR, Bill 4WX, Keith 4DG, Jack 4JF, Ken 4VM, Bert 4AO, Ron 4RL, Col 4EF and myself were present. Bert 4AO reported on Federal matters and brought up the matter of items for the agenda of the Federal conference next year. So chaps, if you have subjects that you think should be discussed on a Federal level start channelling them through your branch now.

Four new members were admitted; the correspondence, and how Bill 4WX has been hitting it, rushed through; certain items passed for payment; noted that Steve 4BB was in hospital; a nice reply from Mrs. R. F. Roberts in acknowledgment of our wreath received, and we were ready to listen to Stan 4SA who, with our auditor Don Hurley, had come along to present his "Methods of Operation" for, in this case, the Queensland Division W.I.A.

After outlining aims and objects, Stan dealt with system. Briefly, the duties of office-bearers and means of carrying out those duties are laid down on paper to try and ensure continuation of one effective system for as long as most of us can see ahead. This endeavours to ensure that as personnel of the organisation changes the methods do not change willy-nilly, and past mistakes are not repeated.

Coming closer to home, parts of the scheme should also simplify the work of our auditor, who is looking forward to a system of bookkeeping that will simplify auditing. Some discussion took place as the report was being delivered and a few points tied up with giving receipts have to be settled. Stan's report was received and later Don had a few words to say on problems he comes up against.

Our thanks to Stan and Don for coming along and giving so much thought to the matter.

A QSL card has been designed by the Tourist Bureau and they will be calling quotes to see how far they are involved financially. Money is pretty short but quality is our first consideration and I have no doubts that the Bureau is making a sincere effort to meet us in our requirements.

Lectures.—At our September meeting, Dr. Morrison, 4MO, will give a talk, illustrated by slides, of his overseas experiences, dealing particularly with New York and a "Hamfest" he attended there. Note the date carefully on your calendar—22nd September—as there are five Fridays in September, and be along.

Subject to Council approval, the October lecture will be "Ionospheric Predictions and Theory," while the November lecture will be "Radio Propagation and Recent Research".

The July meeting was held on 28th at State Service Union Rooms, with a good attendance to hear Pat Kelly talk on "Radio Astronomy".

The Divisional library has just received six copies of Phil Rand's T.V.I. Handbook

which will be ready for distribution to members by the time these notes are in print. At this time three copies are set aside for country members and three for local members, but this will be varied according to demand. Ken 4VM, our librarian, hopes always to have a copy on hand for immediate reference. Please return them as soon as they have served their purpose, or within a month which is the normal term of issue; although extensions may be given.

The Crossed Dipoles award has been withdrawn as we are unable to keep up with demand, and they will be stored with our model of the AFDR1 receiver. They may be inspected on 32nd March, 1962. [An interesting historical item—the improved model—no transistors—now available.—Ed.]

This month's unclaimed QSL card list: VKs 4FB, 4GC, 4GE, 4GG, 4HB, 4HJ, ex-4JJ, 4JY, 4KK and 4KP.

I was pleased to note some of the efficient young chaps at the last Convention. We must have quite a few in the Institute. A good way to gain experience for administration is to become familiar with an organisation. A few of you young chaps could gain a wealth of experience and be of great value to the Institute by assisting councillors with their work. Not only would you be training for office, some of you have to do it some day, but you would ease the burden on older shoulders. Think how much easier the organisation would run if, when one of us became absent for some reason or other there is a "back stop" who doesn't let part of the show slow down, or stop. This should be a show with plenty of young men about. Don't wait to be pushed —take the initiative!

AROUND AND ABOUT

Over 200 W6 cards from VK4TY were checked recently for Norm's application for the "California Award". Geoff 4XB not seen or heard for a long time—last heard of was making receiver alterations using Geloso front end. New countries are being confirmed for Keith 4DG regularly. Being a keen stamp collector gives added interest to the pleasure of working DX. Steve 4BB, who is recuperating after an eye operation in Princess Alexandra Hospital, seen around city radio shops with Stan 4SA. Going mobile? Bill 4WS also looked Steve up, as did David 4DP. Ron 4ZDS, who is helping 4AO with the 4WI tx, is a contender for his full license. 4PC Monto spending more time on t.v. these days but can still be heard around the bands.

Ron 4RL has built himself a "turret tuner" rx and reckons turret tuners are "the goods". Ron has also built his mobile converter. Brisbane chaps report a pretty good signal of Bob 4MF, Townsville, from his new s.s.b. rig. Good to hear Bob 4RW on the Sunday morning hook-up recently. 80 mx is active with VKs and ZLs on s.s.b. and some good U.S. contacts are being made. David 4DP has a new TA33 beam in action. Evan 4EF was in bed with 'flu the other day. Knowing Evan, I doubt if that will affect the efficient handling of disposal matters.

Keith 4DG is very interested in the log periodic antenna and has the best information about them. Keith is also working on an s.s.b. portable. Jim Hillhouse 4ZO, of Carpet St., Collinsville, requires information on triband quad for 14, 21, 28 Mc. Ken 4VM has changed his mind about selling his outfit and will probably go for a s.s.b. adaptor. Chas 4RQ has disposed of his Heathkit and has a Collins KWM2 running pretty well; heard mostly on 14 Mc. Col 4CI has his own brand s.s.b. rig, and is at work on a rx for s.s.b., xtal control, Q multiplier, b.f.o., xtal converter—everything he can think of. Jim 4PR must be approaching D Day with his s.s.b. compact.

The Northern Command Club held their annual meeting in July, when the President's and Secretary's reports were delivered and the election of office-bearers took place. Elected were: President, Brian 4UW; Sec.-Treas., Tony Crane, Committee: Ian 4ZCI, Colin 4ZBQ and Brian 4ZAP. A pleasant time was enjoyed by all and a 522 rx was auctioned, while a s.s.b. handbook was raffled.

At general meetings on the first Monday at Kelvin Grove, visitors are welcome to come and also to stay for supper and a rag-chew. Major construction work is the installation of a complete 2 mx and 6 mx station which will take some months yet. Present work is modifying a 522 tx for 2 mx operation. A rotating antenna installed on 2 and 6 mx is in operation. The Club is active on 6 mx regularly every Tuesday and on the first Monday meeting night.

Due to the absence of the retiring Hon. Sec., Ray Rumble, the annual meeting of the Southport Radio Club was postponed. Ray's jalopy got off frequency on the way to the meeting. Ray was uninjured and managed to get the car to limp back to Murwillumbah. Notwithstanding this setback, the tape on Communications Interference was played to those present. It proved not only very interesting but also very informative and the opportunity of hearing it was appreciated by all. (Thanks for the prompt return of the tape, Bill.)

A bird flying over Gympie heard that the W. B. & B. monthly meeting was held in Gympie on 16th July and 23 persons were present, including OM, XYL and harmonics. They travelled from as far north as Bundaberg and from as far south as Nambour. The meeting covered mostly branch business and the XYLs provided refreshment at the appropriate time. In the afternoon a 144 Mc. hunt, run by Eric 4XR, was won by Ken Chiverton, of Nambour. Another cross on your "rush-box" Ken. Barry 4LN did not enter as he was trying his new mobile rig in readiness for holidays the next day when he was going north for more sun. Half his luck.

Gordon 4GH seen swotting up transistor circuits. Jim 4HZ still chasing over the Commonwealth for parts for the new F.N.H.Z. tx, when he is not watching t.v. Hughie 4HE travelled from "Bundy" with XYL and daughter for the meeting where a pleasant surprise in the presence of their son, Allen, of Brisbane University, who had travelled to Gympie to meet Ma and Pa.

Eric 4XR running the A.O.C.P. Class on Thursday evenings attended by four pupils. The class finishes with an excellent supper provided by XYL Jean—thanks Jean.

Fred Cox never misses a meeting, but just can't find time for that ticket; come on Fred. Bill Tomlinson travels from Tewantin every Thursday night to classes—doesn't get home until 1 am..; you deserve a ticket, Bill. Bill 4SW chasing the t.v. signals with an 100 ft. tower. What about a 144 Mc. beam on top, Bill? Vic 4BJ heard to tell he is going on 21 Mc. as there are now five new Amateurs in the town waiting for call signs.

Another bird flying over Cairns heard that Basil 4ZW is running classes to enable chaps to get their licences. Two members of the class sat on Tuesday, 18th July, for their limited ticket and we hope they have passed. Two other chaps are nearly ready. This means in a period of twelve years since 4MH got his ticket there has not been an examination in Cairns until now when we have four chaps sitting in successive examinations. Good work Basil. Believe you are also assisting a pupil with correspondence. Alex 4MA has resigned from the Education Department head-teachership at Mt. Garnet, and has bought a small mixed business in Cairns. He won't have much time for radio in the future but any southern Hams mobile in Cairns should look him up.

John 4ZAV is leaving Atherton to join station 4QY at Gordonvale. We hope he and Basil 4ZW have a little more success on 6 mx. Basil uses a four element beam.

Kingfisher Group.—We hope the friendly rivalry which exists between VK4 and VK5 does not develop into a cold war but Pansy had better watch out as rumour has it that Howard 4WO, who has had quite a lot of verse published, will soon be persuaded to send in news in verse form. (For better or verse?—Ed.)

Interest in the Group has been sustained, there being at least six Kingfishers participating each morning, the most consistent being 4OL, 4GG, 2GI, 4WO, 4WS and 4SA.

Bill 4WS, Alf 4OL and Stan 4SA made a further visit to the QTH of Del 4RJ, and by the time you read this Del should be on the air again. Del and his XYL looked ever so much better on our last trip. Bill 4WS, as usual, always talks about "front to back ratios" when passing through Surfers Paradise and there will be no holding him when the bikinis are more plentiful during the summer months.

Alf 4OL is keen on experimenting and can be depended to change the circuitry of either his mobile or fixed station at least once per week. George 4GG puts out quite a good signal on both his Command and his big rig. George starts us off each morning with the thoughts for the day, his latest being "drive carefully! Your blood is better in the Red Cross Blood Bank than spilt all over the road."

Keith 2GI is trying to get his road fixed up and spends a lot of his time filling potholes with water to bog the Shire Engineer's car. Eddie 2BB has been sick with the prevailing 'flu, but is now restored to his usual "rude" state of health. Bill 4XO comes on when possible. Bill has gone overboard on s.s.b. despite the fact that he has a really f.b. a.m. rig.

Fred 4VB comes on with s.s.b. on his new KW Viceroy and his latest transmissions rank with the best we have heard. Get that big tower up Fred and let us hear how she sounds with an aerial. Bill 4WD had a visit from Bob 4NG. Bob's photo in "A.R." was a natural. Those of us who know Bob, first looked for the pipe! If you find the pipe just feel along to the end of it and there will be 4 Nancy George. Bill sat for his exam. in his chosen sphere and is awaiting results. Let us know when you celebrate Bill.

Stop Press.—VK4WQ takes the air. Wide Bay and Burnett Branch commenced using their call sign on Saturday afternoon, 5th August. Congratulations W.B. & B.

That's all. Thanks helpers.—4PJ.

OBITUARY

JOHN A. LINDSAY, VK2AKR

Many will remember Jack as one of the stalwarts of the 10 metre band in the days following the cessation of hostilities. Unfortunately Jack has for some years not enjoyed the best of health, which resulted in his death in the early part of July.

He leaves a wife and family to whom we extend our sincere condolences.

IVO JOHNSON, VK4KL

Ivo Johnson ("Johno"), VK4KL, passed away on 22nd May, 1961, after a short illness.

He was an old Ham and was famous for his machine-like fist on the key. "Johno" took up radio way back in 1918 when he joined the Navy. Claude 4ZY, Frank 4FM and Basil 4ZW attended the funeral, which was a large one and well attended by members of the trade houses.

TOWNSVILLE

Those lucky enough to read "CQ" for April and May will have received a very good insight into "Sunspot Activity." This is in three parts, the final one being in June. After reading only the first two parts, one can really see why the squeeze was on the Amateurs to curtail their frequencies. The article points out the various sunspot activity for just over 200 years with a graph towards the future. The so-called 11-year cycle, also a new one of 168 years, which is in the throes of being proved, and it does not hold out much hope on the higher bands above 14 Mc. So looks like us old chaps can just look back on the past peak as the best we ever had and never to see another like it. What tall tales shall we tell in another 10 or 15 years to the newcomers?

Yours truly paid a visit to "Uncle Xray" and this was the start of a procession of callers, who were Barrie 4LN and XYL, David 4ZDA, Jim 4ZO, followed by old timer Charlie Welch, ex-4CW.

Rumour has it a chap from Ingham sat for the last exam and promises to come up on 144 Mc. This might stir Frank 4FC into activity and gladden the hearts of the locals on this band.

Apparently my remarks in previous notes on time signal caused some flurry, as I took the morse version of WWVH, JJY, WWV, and not the tone as in the best informal circles.

Congratulations to our new scribe, 4PJ, in the last two issues of "A.R." Keep up the good work and boost our "Sunshine" (don't mention the drought!). Maybe the "Pansy" will wilt in face of such glowing advertisement of our State. Even see Doc 5MD visited the Gold Coast.

Marvellous what one can hear while tuning around the bands. The other day heard one chap moaning about how we get it in the neck (sic pocket) when buying commercial equipment from overseas. As he illustrated, say a tx costing £80 in England. It would cost £100 Australian (25% exchange), plus duty 27½% (now £127/10/0), plus 20% tariff to protect the Australian manufacture who does not build this class of equipment (now £153), plus 12½% sales tax to help keep the country prosperous, making it just over £172. He forgot to mention freight and insurance. It is about time some of the imposts were removed. If these articles were made here, it would be understandable. As the Yanks say, "Do some lobbying!" Election is on this year and who knows?

Hope our State does better in the R.D. Contest. 73, 4RW.

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SOUTH AUSTRALIA

Once again the monthly general meeting of the VK5 Division was held to a capacity audience, again standing room only, but I must admit that earlier in the evening I began to think that for once the attendance was going to be well below standard, because as the meeting was opened by the Chairman, John 5JC, there were seats aplenty. I woke up later

on that the reason for this is that we are starting meetings a quarter of an hour earlier these days and it will take a little time for this to sink in to the general membership.

The meeting took the form of a film evening and without any doubt it was the most enjoyable and instructive night of this nature that we have had. Up until this, I think all will agree that the finest films that we have seen at the meetings were the ones chosen by Neil 5ZAW, but his record was well and truly broken by these films which were chosen, transported, set up and projected by Keith 5KH (or 5WI, suit yourself). Technical without being too technical, easy on the ear and eye, they retained interest throughout, and the vote of thanks to Keith was responded to in the usual manner, leaving no doubt in anyone's mind that the night was a huge success.

The full house remained for the business part of the night, much to the Chairman's surprise, and opportunity was taken to introduce the new Secretary, Pat 5US to all concerned, and keeping my ear to the ground after the meeting, I can confidently say that he made a good impression on all present and I think that we are lucky to secure him, although we are also sorry that Brian 5CA was forced, through pressure of business, to relinquish the post, having served the Division well and faithfully for some time. Little Divisional business came to hand, the main thing was the mentioning of the proposal to ascertain the possibilities of owning our own clubrooms, and the appointment of Keith 5KH to the position of making all the necessary enquiries on the matter. A discussion took place on our new clubrooms, and it would appear that the only objections concern lack of seating space and the poor acoustics of the rooms, both of which are not unsurmountable. Federal business brought up the John Moyle Memorial angle, and the idea of a field day seemed unanimous. The question of t.v. fringe area Amateur interference, brought up by Pete 5FM, is still in the hands of F.E.

Just as the Chairman thought that all business was finished, a handsome, modest and debonair member, who for obvious reasons must remain nameless, rose to his feet and asked that Federal Executive be written to with regard to a privilege that seemed to be granted to VK2 but not to VK5, namely the payment of Radio Amateur licenses at any post office or money order office. A visiting VK2 in Jeff 2AHM then rose to his feet and said that as far as he was concerned no such privilege existed, and upon the aforementioned handsome, etc., etc., quoting a letter from "A.R." in support of his statement, the visiting VK2 said that he did not believe such privilege existed in Sydney or suburbs, to which the handsome, etc., etc., replied that neither did he but now was a good time to find out. Amidst jeers, catcalls, and derisive laughter, to which the handsome, etc., etc., paid not the slightest attention, the Federal Councillor, Les 5AX, was instructed to do his duty.

The meeting then closed on a note of hilarity, with the handsome, etc., etc., more than holding his own, at the witching hour of 11.45 p.m., and if by any remote chance you are a regular reader of this column, then you will be prepared for the statement that all members retired to their couch of virtue, well satisfied with the fare provided. Once again I emphasise that this means the fare at the meeting, not the bus or train, or even the taxi fare to the meeting.

A welcome visitor at the meeting was Tony (ex G3FKO) and now, all being well, 5II. He is one of the growing number of Gs who come out to our fair State on duty, and are so taken up with conditions and the VK5 gang, that at the first opportunity they hurry back for permanent residence. Welcome OM, see you at the next meeting..

Heard "Shep" 5DC and Luke 5LL in an hour long contact on 7 Mc. the other day. Nothing important in that I suppose, but "Shep" was mobile through the Adelaide hills at the time and it was most interesting to watch the behaviour of his signals as he went up and down and round the corners. He was kicking against the wind however, because every time he nominated his signal strength as going up or down, he always picked the wrong one.

Always try to listen in to the schedule between Ken 5IM and his buddy from VK2 at early evening. Ken's homespun philosophies plus the rather coarse reactions from the VK2 help me to keep in my normal cheery frame of mind. Joking aside, it is quite entertaining and speaks volumes for the friendships made or continued via Amateur Radio.

Frank 5MZ, VK5's gift to chemists and doctors, is still at the moment of writing, laying in his cosy warm bed on these chilly mornings when we unfortunate fellow Amateurs have to sally off to daily toil. He has been given a further extension of time off from work, but by the sound of his voice on 7 Mc., is getting a little fed up with it all. You sounded all right to me Frank.

It is said that unanswered letters eventually answer themselves, and this truism was demonstrated this week on the W.I.A. call-back. Last month in these notes I referred to the fact that I had heard nothing of Buck 5DA and was wondering how he was making out. On Sunday up he bobbed in person and sounded like his old self, although he did say to Keith 5WI that he was taking it a bit easy still. Nice work, Buck, good to hear you on the air again.

The DX position being what it is these days has forced me to invent my own methods of seeking excitement from my hobby. In the course of writing these notes I have been the recipient of letters, both polite and coarse, from various parts of VK, and I now have a board in my shack with a letter from all States excluding VK6 (apparently they are a little harder to needle than the wise men from the east). I am now concentrating on DX with these letters and this month I pinned up my best effort to date, which came from Charles Thorp, a VK4 s.w.l., all the way from Rockhampton, giving me the details of the E.A.R.S. award as asked for a couple of months ago.

Actually the matter came up when I referred to the fact that Ian 5QX had qualified for the award, and Charles tells me that he listened in to the particular contact and has received QSL cards from all three stations concerned. It also enabled him to secure the much coveted Elizabeth Award, and he says that if I QSO Tubby 5NO, to thank him for the certificate. Charles is apparently a canny bird because he opens up his letter by saying "If you are serious about wanting to know the full title of the E.A.R.S. award, I will give you the full information at the end of this letter." If I am serious! Charles, how could you doubt me? Anyway, many thanks for the letter OM, and don't forget that you are the best DX to date!! and polite DX at that.

Talking of the Elizabeth Amateur Radio Club, it is interesting to note that they have enjoyed a satisfactory year, the Elizabeth Award has proved popular, 75 having been issued so far. The QSL Bureau has handled 10,000 cards since its inception, and last but not least the club won the multi-operator section of the last National Field Day. Speaking from my own observations I can safely say that they are the keenest club in my experience, and without mentioning individuals I feel that most of their success is due to the tenacity and faith in the hobby of Amateur Radio displayed by executive and member alike. The President Tubby 5NO and the Hon. Sec. Ron 5FY are to be congratulated on their efforts on behalf of one of the few clubs in VK5 that has not folded up after a few months feverish activity.

Tom 5TL is still conducting his Slow Morse Transmissions on Thursday nights, and if you want any further information as to times and frequencies, contact any member of the student classes; they are finding the transmission very helpful. Incidentally, Tom has overcome the habit of going on the air on Wednesday nights by mistake, he finds that too many of the VK5 boys have had a coarse and unrefined upbringing, judging by their remarks to him after being told of this peculiar habit of losing track of a day now and then.

Ses 5GP (ex-5ZBS) heard in contact with the above-mentioned forgetful gentleman the other night. The contact turned out to be a pat-on-the-back session for the G.P.O., because Frank 2ACQ joined in, and also 2NA. Everybody patted everybody on the back, and concluded with three cheers for the Commonwealth Service, and four cheers for themselves. I have forwarded a copy of a tape recording of the QSO to all four, so that they can hear how well the rattle of the tea cups and the pouring out of the tea came over the air. Made the whole contact sound so natural!

Len 5ZF heard in a hook-up on 80 mx during which a keen discussion took place on the merits and de-merits of Heising modulation. The subject was tossed about from one to the other for some time, and culminated in "Shep" 5DC telling Len that if he liked to call out to the Baronial Hall of "Shep" he could pick up everything for Heising modulation. Great rejoicing thereof on the part of Len, and he and Carl 5SS duly went out and took delivery. Remind me in my next contact with "Shep" to cunningly bring the conversation around to a discussion on NC300s or perhaps a complete Collins set-up.

You know, it is possible to be unlucky. I rang Keith 5WI up and asked him to put over the session that I had heard that the whole area of Elizabeth, including the Elizabeth Radio Club, had been de-licenced, and I felt that the news was true because I had received no notes from that direction for three months. Keith did his duty, and as I sat back with a smirk on my face, my better-three-quarters called out from the kitchen, "By the way, Petals, there is a letter from Elizabeth for you here. It came yesterday." At the moment I am well under cover, but I cannot dodge them for ever, and judging from the remarks attributed to Tubby 5NO after the broadcast, nothing less than boiling in oil will satisfy him. Oh me—oh my!

Len 5OC heard calling 5WI on Sunday with the usual good signal. Long time no hear this joker, and he pleaded guilty by stating that it was his first time on the band since the R.D. Contest last year. Looks ominous, does it not? Les 5AX heard for the first time since his return from the Apple Island. A real good signal from him although he was complaining of the poor conditions his end.

Quite a gathering of the stars on the 80 mx Sunday mornings at the call-back to Reg 5RR after his re-broadcast of the 5WI session. Among the galaxy noted were George 5GD, Carl 5SS, Les 5NJ, Len 5ZF and Rex 5KY. Tom 5TL heard in the distant background at times but just failed to make the grade. This band is becoming more and more popular and before long we will be complaining of the pile-ups. Incidentally, Reg 5RR has been putting in some consistent work on a xtal s.s.b. exciter, but at the moment of writing it is still in the unfinished stage.

The Elizabeth Amateur Radio Club has its weekly round-up on 80 mx each Monday night at 7.30 p.m. (for the uneducated), 2130 local time (for the phone man), 1000 Universal time (for the gentlemen indulging in the international method of communication). Everybody welcome, and that elusive station for the Elizabeth award may be on, so join in. In general, 5LZ, 5NO, 5FY, 5DY and 5EU are on consistently. The club will be setting up a station at the Elizabeth Birthday Celebrations in November, and further information will be available next month because of pressure of space at the moment. In other words, Ye Editor has the red pencil poised!

Jeff 5NQ may be taking up temporary residence in the city during week days, returning home on the week-ends. To dispel any thoughts that this means more air space, I have been hearing another junior operator from this QTH answering to the name of Jo. Her cheery voice can often be heard working the DX with Dad's burgundy-like tones in the background, and it would seem that there is no lack of operators from 5NQ. Tubby 5NO is sporting a new antenna, it has been described "as a co-axial feeding a feeder terminated by an antenna, and drooping very near the clothes hoist. Joyce is still managing to keep her weekly laundry above the whole concoction, despite Tubby's efforts to get the final in the washing machine. Probably after a clean signal, these modern detergents are wonderful! That should make him growl in his beard.

Steve 5HA has also been playing with antennae, assisted by Peter L5039. However, Steve is putting out a signal on the bands, after disguising his voice to sound like Peter's. Didn't trick me. Harry 5EU is still chasing those few extra S points to get ahead of 5NO, and rumour has it that a new anti-5NO device will shortly grace the 5EU backyard, which for every watt that Tubby uses, will rise, like Jack's beanstalk, another three feet in the air. Ian 5QX is still a one-man band —pardon me—a band man one—sorry—a one-band man, to wit 15 mx. The antenna array for this band possesses four elements, plus a chimney and a 5EU built-in trap, and Ian works the DX according to the direction of the wind. Judging by the results it seems to be a good system. Pete 5HB is off the air at the moment for the purpose of re-building. His re-appearance and cheery voice is being awaited with intense eagerness by his myriads of listeners. There I go again, it's the metwurst in me. Don 5KD has decided to remain in Elizabeth and is working on a mobile rig as the only way to avoid the prevalent congestion in the area. Will your new boat have a built-in rig, Don?

Hugo 5ZDA and Bill 5ZDV sat for their c.w. exam this month and everybody has their fingers crossed for them; best of luck, OMs. Don 5TM is still very quiet on the bands, but a new rig is reported in the offering, complete with hot running maids and all mod cons. Clive 5PE is another quiet one these days, but we hope that the s.s.b. rig (horrid words) will eventuate one of these days. Ron 5FY is still trying to keep up with the competition and bobs up now and again. His junior operator Alan has been heard on 40 mx at times, and has succeeded in working enough stations to get the much coveted "Elizabeth Award," of which he is most proud. No doubt about it, they start them young in that area. Is he showing any ability in espionage Ron?

Keith 5EJ is spending more time at home these days and the 20 mx band results prove it. There should be more of it, eh Keith? Cyril 5DY has just about finished his sooper-dooper double perversion rx. It has more conversion stages than would be required to make a T model Ford into a Rolls Royce, and he has been assisted ably by Tony Strong who must be hiding his light under a bushel these days because nobody reports seeing him for some time. Bill 5ZDV heard on the "round-up" telling all and sundry of his best DX to date on 50 Mc. By the time that everybody had had their say, poor old Bill was not sure if it was 53 miles or 530 miles. Ignore them OM, it was only the Green-eyed-monster (sit down Comps, not you). Jealousy is a terrible thing. Look at what goes on between Council and I!

It would seem from the cryptic remarks inserted at the end of last month's notes by the Editor, that apparently I slipped up on the fact that somebody had broken a rib, or a promise or something. Well, after all, I am not infallible, but I can be first with the news that a well known and highly respected, to say nothing of being modest, retiring in nature, kind and forgiving, and a perfect physical speciman of humanity, has been laid low on his sickbed with an attack of 'flu. I am feeling better now thank you, but am puzzling just how Pincott managed to get the germs over to VK5 this time! 73, 5PS (PanSy to you).

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WESTERN AUSTRALIA

This has been another poor month for activity in VK6. Conditions on the high frequencies have been very poor and we are still struggling with the problems of t.v.i. as far as the country boys are concerned. Unfortunately reasonable pictures are received occasionally up to 200 miles from the tx. Enough, anyway, to warrant the purchase of t.v. sets. What one micro-watt of interference does to it is understandable. Of course it is always the Amateur in spite of the measures they have taken to prevent it. Especially 6WL, 6RG, 6CW and others. The result is that we do not have the QSOs on 40 and 80 mx which were once the scribe's storehouse of information. However, we still pick up an occasional item of interest.

The July meeting was well attended in spite of the very inclement weather and an interesting lecture on "Improvements to T.v. Sets for Better Fringe Reception" was given by Mr. Arthur Hayward. After the meeting much discussion was carried on about R.D. Contests, t.v.i. and putting out more watts, etc., while members had a cup of tea and biscuits.

During the month our "mobileers" 6BU, 6RW and now 6AB were heard in action on 40 mx from various parts of the city. 6AB hopes to make contacts with his 122 while on his country tours. 6PH is still having problems with his new tx. His main trouble seems to be making the extra watts leave the warm shack and travel up to his ice-bound antenna. Hope you sort it out by R.D. day Pat. Try putting a radiator in parallel with your antenna. 6BU found it too cold in the shack one Sunday so went mobile on the North Mole among the waves.

A stranger in our midst lately was VK9PJ/P in VK6 from Exmouth Gulf. He has probably moved on by now, but was heard in contact with 6LG. We welcome some new call signs to the bands this month. 6MJ, 6RB, 6VV, 6DW, 6CU (ex-6ZCU), 6ZDV, 6ZCI, 6ZCP, and hope they have many happy years on the bands. Our thanks must go to 6GH for the "Technical Gleanings" after the news each Sunday. They are always interesting and instructive. 6TH is going on a tour to Darwin and Alice Springs and hopes to keep in touch with VK6 with his 122 portable.

6CW is still trying to contact VR2EB, ex-VK6CO, and may have done so by now. We have not heard much of Clem lately in the city except on 40 mx Sunday mornings. Another call missing lately in 6DR. Bill has gone north for a short period I hope. Bill 6RX is heard here some times on 20 mx in DX contacts, that is when his beam is in the right direction. 6XO is fiddling with his modulator in spite of the good signal he generally puts out; hopes to do something extra on R.D. day no doubt. Judging by the "fiddling" that is going on VK6 will be on the ball for that R.D. trophy this year. It has been out on loan long enough.

Well chaps no more for this month. Hope to do better when conditions fmprove.—73, 6ZCK, per 6LS.

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TASMANIA

This month we regret that we have to extend our deepest sympathy to two members; to Den 7DK, following the death of his father, and to Edgar 7RY, following the death of his mother.

Geoff 7ZAS has been on the sick list for about three weeks with pleuresy, but he has made a good recovery now. We were pleased to welcome Ray 7ZRJ, who was in Hobart for a few days, down from Launceston. Construction of new gear has been under way during the winter months, and Jim 7JO has his new portable in operation. Joe 7BJ has also got a 4w. rig operating and it puts out a good signal too.

Please remember our Divisional exhibit at the Hobbies Exhibition to be held in the City Hall, Hobart, from 5th to 9th September inclusive, from 11 a.m. to 10 p.m. daily. VK7WI will be on the air each evening and on the Saturday, either on the 80 or 40 mx band, as well as all the time on the 144 Mc. band. Please ensure that the operators will have someone to talk to.

Also, remember the Fox Hunt with direction finding of mobile tx's, on either the 3.5 or 144 Mc. bands, beginning at 2000 hours from the Customs House on Saturday, 23rd Sept. A fee of 10/- per car will be levied for the benefit of the Club Room Fund raising account. Black coffee will be available at 2 Merryville Esplanade, Sandy Bay from 2200 hours. Bring your own eats and milk if you want some. Another function to remember is the social evening at Linfield on Friday, 6th October, beginning at 2000 hours, again for the Club Room Fund. Admission £1 per head, each member can bring as many guests as he wishes.

Our August Divisional meeting took the form of a lecture by Alan 7MY on the basic principles for a rx. His topic was amply illustrated by the excellent rx of his own design and construction displayed to the meeting. Thank you Alan for a most interesting lecture.

Pat 7GV had a week's holiday on the north-west coast at the end of July, and he enjoyed the use of the Institute's Type A Mark 3. Although it is not my usual practice to welcome new members to the Institute, yet I make an exception with John ex-0JH. John hopes soon to be on the air in VK7. 73, 7ZZ.

NORTH WESTERN ZONE

Annual meeting the other night. Was in the act of congratulating myself that I had finished my term in the chair when I was dobbed in on this job. So had best pull up my journalistic socks and get into oscillation. Our new President, Ken 7KH, takes office with our best wishes. It was a certainty of course that David 7MS would hold down the Secretary's job, as also associate Alan Baptist did as Treasurer, George 7XL suddenly found himself QSL officer, and Bob 7ZAA will still be v.h.f. officer. And so it's coats off and to the task. When you read this, the 1961 R.D. Contest will be another pleasant memory and we hope that the voices of this Zone provided some background to the general cacophony.

David 7MS is looking for a crane with a lift of seventy feet and a touch as gentle as an old time nurse, to lift his four-band, three-element comical quad into place. Or if anyone has some lightweight non-bendable angle iron, please advise. Heard Ken 7KH working cross-band duplex with himself the other afternoon. Or I think that is what he was doing. Ellis 7WA has ordered a pair of asbestos gloves. Necessary to handle his new pre-amp. they say. The surrounds of 7MX now sports another 80 mx dipole. The Plovers now find it difficult to navigate through the wires in early morning.

Was delighted to welcome Reg 7RL and his son to the annual meeting. We thought Reg looked bright and fit after his long convalescence. Best of luck Reg. Also pleased to see Wynyard represented by Harold 7MZ who, with Dennis 7DR, have had the treatment from the pictorial section of the local newspaper; nice pictures chaps.

Any locals who have a flair for pushing 45 ft. poles into a vertical position would find a ready outlet for their activities at the QTH of George 7XL. Advise George early so that gassy 807s can be on hand. A number of our members are doing night duty at the new St. John Ambulance services at Burnie and Devonport. Slightly different procedure and rag-chewing is definitely out on the air, but some good times are had in the recreation rooms. Amazing how a pack of cards can pass the time.

Wonder if any regulations were breached when associate Winston turned up at the meeting in a pair of the firm's overalls. Good plug for t.v. though. David 7DA was absent with leave. Understand he had a sked with Maid of the Mountains. Could he be a ham twice? Terry 7TT was pictured recently in a mainland paper in shorts and pointed hat. Could it be that he was getting up steam for the Scout Jamboree-of-the-Air? Well chaps, it's back to the rig. See you on the band and here next month. 73, 7MX.

HAMADS

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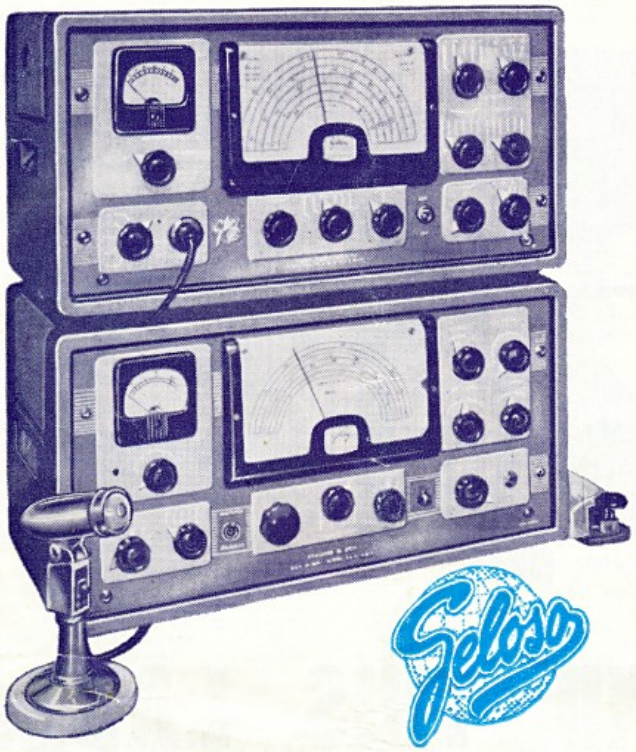

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